Clinical Illustrations

OF THE

PERSISTENCE OF DISEASE GERMS IN THE HUMAN BODY.

BEING AN ADDRESS TO THE CLINICAL AND PATHOLOGICAL SOCIETY OF PAISLEY.

BY

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AMONG the many important services which bacteriological science has rendered to surgical practice not the least interesting is the evidence which it has afforded of the persistent power of living in the human body which is exhibited by most, if not by all, of the micro-organisms known to be the causes of disease. Some of these, having once obtained possession, seem to be immortal within the limit of the life of their host. They may go asleep for a time, but they do not perish. Recovery from the particular disease caused takes place, and the patient enjoys what appears to be, and really is, most excellent health for months or years, when recrudescence occurs to show that the enemy had only called a truce and had not in reality retired permanently from the conflict.

Until recently the only diseases which were regarded as undoubtedly recidival were syphilis and cancer. Both were known—indeed, were expected—to reassert themselves after, it might be, long periods of apparently unimpaired health, and in both a fatal issue might be arrived at after frequent and fallacious assurance of fully re-established physical well-being. Syphilis, it is now recognized, is the product of a *contagium vivum* in the shape of a micro-organism—the *Spirochaeta pallida*—the presence of which has been demonstrated even in the latest tertiary manifestations of the disease; while, if analogy may be trusted, it is not too much to expect that something similar may, in the future, be discovered as having a causative relation to cancer.

But I wish to suggest, and to illustrate my contention from clinical experience, that this liability to recurrence, so long obvious and recognized in the cases of syphilis and cancer, may be observed, in varying degrees, in almost all diseases in which micro-organisms play an important part. The germs rest and remain either near the place where they first made their presence felt by the production of a definite lesion or in some place, more or less distant from it, to which they were transferred, during the currency and progress of that lesion, usually along one or other of the great high-roads of the body, the sanguineous and lymphatic vascular systems. In either situation they may lie dormant for longer or shorter periods of time, until aroused and awakened by some disturbance in the conditions attaching to themselves or their host or the relations existing between the two. This behaviour of disease germs, whether bacterial or protozoal, probably has its analogy in facts connected with the vegetable world. White of Selborne seems to have been impressed with the truth that it was possible for seeds to remain long dormant in the soil and yet to germinate when favourable conditions arose. Thus, under the heading of "Seed Lying Dormant," we find this paragraph in the *Natural History of Selborne:* "The naked part of the Hanger is now covered with thistles of various kinds. The seeds of these thistles have lain probably under the thick shade of the beeches for many years, but could not vegetate till the sun and air were admitted. When old beech trees are cleared away the naked ground in a year or two becomes covered with strawberry plants, the seeds of which must have lain in the ground for an age at least. One of the slidders or trenches down the middle of the Hanger, close covered over with lofty beeches near a century old, is still called 'strawberry slidder,' though no strawberries have grown there in the memory of man. That sort of fruit did once no doubt abound there and will again when the obstruction is removed."

In a conversation which I lately had with a well-known botanist regarding this matter, I gathered that he entertains no doubt of the fact that seeds may lie dormant in the ground for shorter or longer periods, although he does not think White's particular illustrations of it quite convincing in the light of our present knowledge regarding the free distribution of the seeds of such plants as the thistle and wild strawberry by the winds and the birds of the air. He suggests, as a more convincing instance of the fact, the circumstance that when old pasture is turned over by spade or plough a large number of plants may appear whose presence can only be accounted for by their seeds having lain inactive in the soil so long as it was undisturbed.

I shall now proceed to offer you some clinical illustrations of the facts on which I have based these remarks.

The following case demonstrates what is not an altogether unfamiliar experience in regard to erysipelas, and shows how a fresh traumatism will rearouse sometimes the virulence of germs lying quiescent in a part in which they have on a former occasion caused widespread and dangerous disease.

CASE I.—*Recurrent Erysipelas.*

In August, 1886, the captain of a ship trading between Glasgow and Calcutta met with a carriage accident in the latter city, in consequence of which he sustained a fracture of the lower end of the fibula, with a compound dislocation of the lower extremity of the tibia, of his right leg. From his account of the progress of his injury it was evident that sepsis early invaded the wound and the ankle-joint, and serious illness followed. Suppuration was abundant and much swelling and inflammation occurred around the injury. But in May, 1887, he left Calcutta and arrived in London. There were several sinuses open, from which pus was discharging, and much thickening existed around the lower part of the leg and ankle. He was admitted to a hospital, where an operation was performed and some dead bone extracted. This interference was followed at once by a severe attack of erysipelas, which ultimately spread as high as the armpit, and evidently placed his life in great danger. After this was entirely recovered from, he came to his home in the west of Scotland and soon felt remarkably well, walking about a good deal with the aid of crutches. But as matters did not improve so far as the condition or usefulness of the limb were concerned, he determined, upon medical advice, to have the leg amputated in its lower third. He was admitted for this purpose under my care in the Western Infirmary, and in December, 1887, I operated on him. I found the ankle-joint firmly ankylosed and sequestra lying loose in the tibia, fibula, and astragalus. I did not, therefore, amputate, but, having freely opened up the soft parts, extracted the sequestra, curetted the cavities and their sinuses, irrigated thoroughly and stuffed the recesses of the wound lightly with iodoform gauze. For a day or two the patient was remarkably well, but on visiting the hospital one morning, a few days after the operation, I was informed that he had been seized with a severe rigor the previous evening and had vomited several times during the night. His temperature was very high and he complained of great pain in the wound. Already I found, on inspection, a red blush of the skin of the leg above the highest turns of the bandage, and it was evident that erysipelas was present. This continued to spread upwards until it involved the thigh as well as the leg. He was treated in isolation and ultimately made a good recovery, the wound healing soundly and permanently, so that he was able once more to take command of his ship.

It is highly improbable that both the surgeon who operated in London and myself had, on occasions separated from one another by about seven months, introduced some virulent strain of streptococcus into the wound and so given rise to the erysipelas. All that we did was to disturb the soil, break down barriers which walled off the streptococci existing in the part itself, and opened the lymphatic spaces in the skin for their entrance. A fact like this does something probably towards the explanation of those cases of recurrent, or, as they have been called, habitual, erysipelas of the face and head which are occasionally observed in certain individuals. An attack is aroused by the slightest traumatism, by exposure of the face to a cold wind, or even occasionally by violent sneezing or blowing of the nose. No immunity whatever seems to be conferred by previous attacks.

Staphylococcic ostitis, or osteo-myelitis, one of the most formidable diseases of childhood, has for many years been recognized as one apt to be characterized by relapses of inflammation in the part, sometimes without, sometimes with a renewal of suppuration, and especially, perhaps, since Paget published in 1869 his well-known paper on Residual Abscess, mainly in reference to instances of this disease and of tuberculous disease of bone. Few patients pass through a serious illness of this kind, especially with

necrosis and the formation of sinuses in such important bones as the femur, tibia, or humerus, without having relapses, sometimes numerous, and often very serious in character.

Case II.—*Recurrence of Staphylococcic Osteomyelitis.*

Not long ago I had under my care a young man who, eleven years previously, had been in my wards with sequestra in the upper and lower ends of one humerus, the result of recent severe osteomyelitis. I then removed the sequestra and, after a time, his wounds securely healed. Still, during the eleven years which have since passed he has been laid up on four occasions owing to the occurrence of inflammatory attacks in that bone, with fever and other signs of constitutional disturbance, and on three of those occasions abscess formed. His last illness was in October, 1909, when I evacuated a large abscess which existed in front of the upper end of the humerus, extending into the armpit and under the pectoral muscle. There was no sequestrum, but the pus yielded a pure culture of the *Staphylococcus aureus*.

He remains well since that time, but I greatly fear that his troubles may not be at an end, for he has several times enjoyed excellent health for longer periods of time than that which has elapsed since this last abscess was opened. Indeed, I do not think that it is fully appreciated what a lifelong trouble this infantile infective disease of bone often proves itself, laying a man aside from business time after time during his life. Twice I have seen men over 70 years of age laid up by most painful and serious abscesses, occurring, in each case, in connexion with a tibia from which in early life numerous and large sequestra had separated and been removed after long-continued suppuration. In each the tibia was greatly deformed, and showed the depressed scars of many old sinuses, and more than one relapse had occurred during the long life of both men. But recurrence is not always confined to the part in which the primary infection happens to take place. It may occur years afterwards in another part of the body.

Case III.—*Recurrent Staphylococcic Abscess in Right Tibia Nine Years after Amputation of the Left Leg on account of Acute Osteomyelitis of the Left Tibia.*

On January 26th, 1909, there was admitted to my male ward in the Western Infirmary a shoemaker, aged 25. More than eight years previously he had been treated in the Royal Infirmary by the late Mr. Henry E. Clark on account of osteomyelitis of great severity beginning in the neighbourhood of the lower epiphysis of the left tibia. Nearly the entire shaft of the tibia necrosed and lay exposed in a wound which extended almost from ankle to knee. He was extremely ill and early developed a right pleurisy, while shortly afterwards the knee-joint seems to have become involved. Mr. Clark amputated in the middle of the thigh, and thereby, I have no doubt, saved the patient's life. After complete recovery he learned shoemaking, and has since worked at that trade, enjoying good health and getting about fairly well with a crutch. Twelve weeks before coming under my care, however, he began to suffer from severe aching pain, aggravated at night, in the front of the shaft of the tibia of his remaining leg (right) a little above the junction of its middle and upper thirds. After a time a strictly defined swelling of the bone occurred, like a large node; and when I saw him there was over the most prominent part of this swelling a reddened and very tender spot of skin where fluctuation was distinct. There was no constitutional disturbance or fever present. Under chloroform the abscess was incised, and a small opening was found in the bone beneath, which led into a cavity of some size. On enlarging this opening, I was able to scrape out of the cavity with a spoon one or two small sequestra and much coarse granulation material. When the skin was incised, some of the pus as it flowed was received into a sterile tube, and, on cultivation, yielded an abundant growth of *Staphylococcus pyogenes aureus*. He made a good recovery, sound healing ultimately occurred, and he once more works at his trade.

It will be observed that there are some unusual and aberrant features presented by this instance of staphylococcic ostitis. The age of the patient (25 years), the fact that the disease occurred in the shaft of the bone and not near either extremity, the epiphyses being united, the further fact of the absence of all fever or other general disturbance of health, are none of them in accord with the facts to be observed in a primary attack of the disease. All the circumstances point strongly, in my opinion, to the conclusion that the pyogenic organisms were carried to the patient's right tibia at the time when they were working such havoc with the left one. There they lay quiescent for between eight and nine years, but at last produced mischief characteristic in kind, though much mitigated in intensity. It is an occurrence analogous to that of the woman who has a breast amputated on account of a cancerous tumour, who, after enjoying excellent health for some years, begins to suffer from rheumatoid achings and pains in one thigh, and one day breaks that thigh-bone by putting her weight on it when stepping out of bed. A residual fragment, or perhaps germ of cancer, has rested without material change in her thigh-bone for years, and then by a sudden renewal of growth and activity has led to spontaneous fracture.

But a secondary infection of bone by staphylococcus may occur even when the primary disease caused by it was not an ostitis.

Case IV.—*Ostitis of Femur occurring in a Man, 54 Years of Age, Four or Five Months after Recovery from Large Carbuncle on Neck.*

An iron turner, aged 54, was admitted into hospital under my care on May 5th, 1908, on account of pain in the left thigh and lameness of three months' duration. The pain, when first felt in the limb, was referred to the neighbourhood of the shin and ankle. This was not very severe, and lasted only for a week. It caused him to limp but he continued at work. He stated that "the pain then shifted to the knee and thigh, and has remained there since." During three or four weeks before I saw him it had been intolerably severe, interfering with his ability to walk and therefore to work, while it frequently robbed him of a whole night's rest. On examination a distinct enlargement of the middle of the femur, which tapered off above and below, was observed. There was no fever whatever, the temperature always being found normal night and morning. Four or five months previously the patient had suffered from a large carbuncle on the back of the neck, which had caused him great pain, and kept him from work for five or six weeks. The scar left by it was a large and irregular one. It was immediately after his return to work that he began to experience painful sensations in his left lower limb. This tumour of the thigh did not suggest to my mind the characters of a neoplasm. Nor did I, at first, quite see why a man, aged 54, who had always been very healthy and had no history of syphilis, should suffer from this painful enlargement of the middle part of his femur. He was far removed beyond the age when one expects to meet with staphylococcic ostitis, nor is the middle of the thigh-bone one of the *élite* situations of such an ailment. Moreover, though pain was great, fever was entirely absent. On May 7th I cut down on the thickened bone through the front of the thigh, making an incision through skin and muscles of about 8in. in length. The periosteum, which was greatly thickened, was reflected to each side, when it was seen that the surface of the bone was very rough and irregular, owing to new formation. A wedge-shaped piece of the femur was removed by chisel and mallet. In the cavity thus opened there was a certain quantity of greyish fluid. I regret to say that, by some mistake on my part, no culture was made from this fluid, but the following is a report sent to me by Dr. J. H. Teacher on the portions of tissue which I removed at the operation:

"I picked off from the bone all the soft tissues I could get, and have to report on them and on one small piece of bone accidentally included. They all show a septic condition, apparently subacute, there being present many polymorphonuclear leucocytes and also granulation tissue. There is nothing like sarcoma. The osteophytes are not yet ready for cutting, but I should be greatly surprised, in view of the above and their characters, if they prove to contain tumour."

A later note from the pathologist stated that further examination had convinced him that there was nothing to suggest sarcoma. The wound suppurated a good deal, and, although the patient's strength was well maintained, healing was somewhat slow in its progress, principally because some bare bone, which was early observed after my operation, was slow to separate. It was extracted in August by the assistant surgeon who had charge of my patients during my absence on holiday. Sound healing occurred ultimately, and the man returned to his work towards the end of the year.

Although, unfortunately, no bacteriological examination of the fluid from the central part of the thickened femur of this man was made, I have no doubt now in my own mind, from the characters which I noted in the part both before and during operation, as well as from Dr. Teacher's subsequent pathological report, that the ostitis was due to staphylococci furnished by the carbuncle from which he suffered immediately prior to the first symptoms of the mischief in his femur.

The following case is an interesting example of the limited recurrence of an empyema owing to the persistence in the part of the *Staphylococcus pyogenes albus*:

Case V.—*Case of Empyema due to Staphylococcus pyogenes albus: Recurrence of Suppuration nearly three Years afterwards, the same Organism being present.*

On January 29th, 1907, A. R., a young woman aged 17, suffering from an empyema of the right side, was transferred for operation to my female ward from that of my colleague, Professor Gemmell, to which she had been admitted on December 20th, 1906. The following facts are extracted from the journal of that ward: On December 8th the patient began to

suffer from severe headache, which confined her to bed. Next day her headache was even more severe; she suffered also much pain in the back, and was highly feverish. On the evening of December 10th she became delirious. From that time up to December 20th the pain and delirium continued, and the patient was said not to have had any sleep. There had been no vomiting, convulsions, or rigors. The Widal reaction proved negative. On admission the patient lay in bed obviously suffering great pain. There was no retraction of the head or rigidity of the limbs, but she screamed aloud whenever she was touched. The pupils were normal, but there was an internal squint of the left eye. Respirations 40, pulse 120, temperature 104.4° F. No abnormality in thorax or abdomen was made out, and there was no rash. On December 21st she was conscious when roused, and answered coherently when spoken to. On December 24th it is noted that there has been marked dyspnoea, the respirations averaging 60, and the pulse ranging from 124 to 162 per minute. Her highest temperature on that day was 103.4° F. Consolidation was noted at both bases, and on the right side the dullness extended up to the interscapular region. Along with the dullness there were crepitus and tubular breathing. She has been less noisy and has not cried out so much as before, lying semi-comatose. On January 1st it is noted that no improvement had occurred, that the patient had lost much flesh, and that numerous furuncular sores had formed on her body and upper limbs. Diarrhoea had been present for about a week. The temperature had oscillated considerably, but the pulse remained rapid. The patient was semi-comatose, motions and urine being passed in bed. On January 7th considerable improvement in her condition was recorded, the diarrhoea had ceased, and she was much stronger and more intelligent. Widal's test with *Bacillus typhosus* and *Bacillus paratyphosus* gave a negative result. On January 29th it is noted that Dr. Gemmell suspected the presence of fluid in the right pleural sac, and, on the introduction of an exploring needle, it was found to be purulent, and the patient was transferred to my ward for operation.

On January 30th I excised a portion of the eighth rib and evacuated 2½ pints of pus. The patient, although extremely weak, stood the operation well, and showed no signs of shock or collapse. She made rapid progress, and on February 10th it is noted that her condition was very satisfactory, the temperature being practically afebrile, and she was eating and sleeping well. The discharge was almost entirely serous under strict antiseptic dressing, and rapidly diminishing in amount. She was now much stronger and could sit up in bed. She continued steadily to improve and to gain strength, but it was not until June 8th that she was dismissed. By that time her wound was satisfactorily sound, and her weight and strength well restored.

On February 21st, 1907, Dr. Teacher reported as follows: "The organism from the case of A. R. (empyema) proves on subculture to be *Staphylococcus pyogenes albus*."

Nearly three years after her dismissal she was again admitted to hospital, being placed this time under Dr. Edington's care, in a ward reserved for the treatment of septic cases; and he has kindly furnished me with a short note of her case as observed by him.

She was admitted on December 9th, 1910. She had remained well since her previous illness till a fortnight before her present admission, when the region of the scar became swollen. She had pain in the swelling one week later, when she was seen in the outdoor department and recommended for indoor treatment. The swelling burst on the day of admission and a small quantity of discharge oozed away. On December 10th the condition noted was a fluctuant swelling about the size of a walnut, situated in the middle of the old scar. Incision allowed a few drops of turbid fluid to escape. The main bulk of the swelling was composed of infiltrated connective tissue. This was incised, after which a probe was passed through a sinus into the pleural cavity. This sinus was situated in the middle of the eighth rib, that is, in the interval from which a piece of the rib had been formerly removed. The periosteum having been elevated the rib was divided in front of and behind the sinus and the intervening parts removed. On then enlarging the opening into the pleura, the finger found a limited cavity, bounded above and behind by the lung, and in front by the ribs. The cavity contained turbid watery fluid. A drainage tube was inserted and the wound partially closed. The bacteriological report, dated December 12th, 1910, is as follows: "No organism seen in film. A very scanty growth of *Staphylococcus albus* obtained on culture."

If we now turn from pyogenic to pathogenic organisms we shall, perhaps, be still more struck by the viability of many of them.

It is almost unnecessary to refer in this connexion to tubercle, so well recognized by all practitioners is its tendency to recurrence even after long cessation of active symptoms. Indeed, it is often hard to be sure whether a tuberculous lesion is a primary infection or not. It may be only the awakening of some latent, perhaps unknown, infection of many years' standing, and von Behring has expressed the belief, probably with every justification, that pulmonary tuberculosis in the adult results not seldom from the tardy evolution of an intestinal infection contracted in early life. Recrudescence of the tuberculous process in joints, bones, glands, and skin is too well known to every practitioner to require illustration, occurring as it often does repeatedly in a patient's lifetime, sometimes with prolonged intervals of suspense between the attacks. Again, the injury which is followed by active tuberculosis in a hip or knee is probably only the quickener of a latent deposit which already existed there; and when a consumption supervenes upon a typhoid fever or an influenza, or a tuberculous meningitis on an attack of measles, it is not improbable that in each case the fever has only awakened into activity germs which settled in those parts months or years before.

Writing lately on "Syphilis: Recent Methods of Diagnosis and Treatment," Dr. Ivy McKenzie makes the following remarks:

A second infection of syphilis is extremely rare, and no case of a hard chancre occurring in a tabetic or general paralytic has ever been reported. Krafft-Ebing failed to inoculate with the virus of a typical hard chancre nine cases of general paralysis, which gave no history and showed no sign of syphilis. Such observations have naturally led to the conclusion that one attack of syphilis confers a permanent immunity. It is more likely, however, that the patient still harbours the virus, because Neisser has shown that as long as spirochaetes are present reinoculation is impossible, whereas, after thorough treatment of experimental syphilis and trypanosomiasis, it is possible to reinfect the animal almost immediately. The term "acquired immunity" as applied to syphilis, signifies, therefore, a condition of equilibrium between the host and the spirochaetes of the original infection, whereby an inoculation with fresh material does not produce the usual manifestations. The existence of latent periods in disease is not peculiar to syphilis. Thus, trauma, an attack of measles, or of influenza are not the causes of tuberculous infection; they are the conditions which give rise to disturbed relations between the patient and the organism which may already have been present for some time.

In syphilis and tubercle, therefore, we may be satisfied that their respective specific organisms, once admitted into the body, have their potentiality for mischief terminated only by the death of their host. And the same latent persistency may be observed in cancer, although as yet we know of no causative germ related to it.

Let me now direct your attention to the extraordinary viability of the *Bacillus typhosus*. The fact of its power of survival in the body has of recent years, as you know, become a matter of grave concern, on account of the danger which often follows to the public health from the prolonged persistence of the bacilli in the urine or alvine evacuations of certain patients who have recovered from typhoid fever, and who may from these sources continue to spread disease and disaster amongst those with whom they live or work.

Surgeons are familiar with many sequelae of typhoid fever, due to the presence of the bacillus, in which relapses are of very frequent occurrence. They are too numerous to mention here, but there are at least two which are comparatively common—namely, inflammation of certain bones with or without abscess and necrosis, and inflammation of the gall bladder with or without gall stones. In bone abscess a pure culture of the typhoid bacillus has been obtained at least six years after recovery from the fever, and in the case of an abscess about the gall bladder fourteen years and a half after (Kean on *Surgical Complications and Sequels of Typhoid Fever*).

CASE VI.—*Repeated Attacks of Severe Pain in a Tibia for Twenty-seven Years subsequent to the occurrence of Typhoid Ostitis with Abscess in that Bone.*

I know a lady, now 65 years of age, who passed through a severe attack of typhoid fever in 1884, which confined her to the house for five months. During convalescence a painful swelling of the lower part of the left tibia occurred. Her brother, who is a medical man, informs me that this was operated on in March, 1885, on account of abscess. Her progress was slow, and she was lame for two or three years thereafter. She then became subject to attacks of agonizing pain in the part at shorter or longer intervals of time, although her health was well maintained. This liability to sudden onset of pain still continues, several attacks having occurred during last year. No swelling is observed during an attack, but sometimes a limited spot of great tenderness can be made out. There has never been any recurrence of suppuration.

The following are shortly the facts of an interesting case of cholecystitis, consequent upon typhoid fever, which I have quite recently had under observation:

CASE VII.—*Case illustrating the Persistence of the Typhoid Bacillus in the Gall Bladder.*

Mrs. H., aged 39, was admitted under my care in the Western Infirmary on October 8th, 1907. In May, 1907, she suffered from an attack of typhoid fever. When convalescent, but

before she had left her bed, severe pain occurred in the right hypochondrium. She herself soon afterwards felt a "lump" in that region which was tender to pressure, and she drew her doctor's attention to it. During August and September she had repeated attacks of most severe pain in this swelling. They were accompanied by vomiting and profuse perspirations, but there were no rigors. She did not suffer from jaundice or notice any alteration in the colour of the stools. She stated that during each attack of pain the tumour in the abdomen increased markedly in size.

On examination, it was easy to make out a tense pyriform tumour in the situation of the gall bladder, which extended down almost to the level of the umbilicus, and was very tender on pressure. She was kept in bed for several weeks, and, by rest, great improvement occurred, so that all her pain subsided and the tumour diminished so as to be only doubtfully perceptible on palpation. When she was allowed again to be up and to walk about relapse quickly occurred. On December 10th I operated, opening the inflamed and somewhat thickened gall bladder, stitching it to the abdominal wall and inserting a drainage tube. It contained a quantity of muco-pus and inspissated bile, but no gall stones. Then and on several subsequent occasions cultures of the fluid were made, and yielded a pure growth of *Bacillus typhosus*. In January, 1908, the typhoid bacillus was no longer found in the discharge, but a very short Gram-negative bacillus was present. On February 3rd the drainage tube was removed, and on March 10th the patient went home. She was then in good health and free from all pain, but the sinus still furnished some glairy discharge. She continued well, except on occasions when the discharge was retained by a temporary closure of the fistula; and in November, 1908 (seven months after leaving hospital) the fistula healed securely. About the same time she became pregnant. She enjoyed excellent health throughout her pregnancy, having no trouble whatever with the gall bladder. The child, which was her twelfth, was born on August 20th, 1909, after an easy labour. She remained well until the middle of October, when pain and the former tense swelling were once more felt in the right hypochondrium; and after several recurring attacks of the pain and vomiting she came back under my care. I reopened the sinus without much difficulty and reintroduced a small drainage tube. A pure culture of *Bacillus typhosus* was again obtained from the discharge on four different occasions. In December bile began to flow freely from the tube and the typhoid bacillus was still in pure culture. Dr. Carl Browning, who conducted the bacteriological investigations, has referred to the case in a lately published paper entitled "Latent and Chronic Infections with Typhoid Bacillus" (*Glasgow Medical Journal*, August, 1910), and from that paper I may quote what is to be said further regarding the bacteriology of the case.

"Subsequently there was found," he writes, "in addition to *Bacillus typhosus*, *Bacillus proteus* and a very short Gram-negative bacillus. On the last examination, in January, 1910, typhoid bacilli were still present. *Bacillus coli* was not found in the discharge from the gall bladder at any time. The typhoid bacillus from this case gave all the typical reactions and was agglutinated to the limit (1 in 8,000) by an antityphoid immune serum from a rabbit. The urine was examined on three occasions during November to December, 1909, but *Bacillus typhosus* was never found. Thus, in this case, typhoid bacilli are still present in the bile passages two and three-quarter years after the acute illness. The patient's serum was tested on several occasions from October to December, 1909, with her own strain of *Bacillus typhosus* as well as with the laboratory culture. The Widal reaction was positive, but not markedly so (agglutination in forty minutes with a dilution of 1 in 40) at room temperature."

She was dismissed on February 12th, 1910, in good health, but with discharge still escaping from the sinus. Within the last few days her doctor kindly sent a reply to a note of inquiry regarding her present condition which I had addressed to him, and in that reply he writes as follows, under date February 10th, 1911:

"I saw Mrs. H. yesterday. After leaving the hospital a year ago the sinus continued open till August, when it closed and remained so until January of this year. Then there occurred once more a great swelling of the gall bladder. With hot fomentations constantly applied the sinus opened up again, and the swelling subsided. She is now once more going about as usual, there being a little discharge daily from the wound."

Probably the bacilli still persist. The question of treatment in such a case is one of some difficulty. If the organisms were altogether confined to the gall bladder its entire removal might be contemplated. But no doubt they are present throughout the biliary passages generally, and in these circumstances removal of the gall bladder would prove futile.

I shall conclude my clinical illustration of this subject by detailing shortly the main facts of a case of amoebic abscess of the liver, the only example of the disease which I have ever had occasion to treat.

CASE VIII.—*Amoebic Abscess of the Liver occurring more than Six Years after Recovery from an attack of Dysentery.*

On April 30th, 1910, N. M., aged 27, a soldier, was admitted into the Western Infirmary under my care. He had served in the army for four years, and two of those years were spent in South Africa (1902–1904). While there he suffered from a severe attack of dysentery, and was in hospital for some months. His recovery, however, was complete and satisfactory, and in the summer of 1904, as his own battalion had been recalled to this country while he was ill in hospital, he was attached to another, and found himself able for all his work. He was, after a time, sent to this country, and rejoined his old battalion at Maryhill Barracks, Glasgow, where it was then quartered. After serving there for another year, his time of service expired, and he went back to work as a baker, the trade which he had learnt before joining the army. He continued to enjoy excellent health and worked uninterruptedly as a baker until his present illness began. Ten weeks before his admission into hospital he one day felt ill, and was seized with shivering. He was laid up, and a week later began to suffer pain in the right hypochondrium. This continued for a week, and then seemed to alter its position, becoming localized about the level of the fourth interspace on the right side and being only felt on deep inspiration. Soon, however, the pain became generalized over the side and gradually increased, but varied in intensity from time to time. About a fortnight before admission swelling became obvious, bulging the lower ribs on the right side outwards; and it was said that for a week the pain had been very severe, almost entirely preventing sleep. The patient looked extremely ill and exhausted, complained of great weakness, and frequently moaned on account of pain. All over the right chest, front, side and back, about as high as the fifth intercostal space, and also over a considerable area in the right hypochondrium there was dullness on percussion. Over the bulging part of his side distinct fluctuation could be made out in the intercostal spaces, in spite of the fact that the slightest pressure elicited loud complaints of pain. There seemed to be no doubt that the abscess was there adherent to the chest wall.

The operation proved a very simple one. I made an incision in the sixth interspace at a point where fluctuation was very distinct, and before cutting through the whole thickness of muscle the contents of the abscess began to flow. Having extended the opening, I introduced a large and long drainage tube, drawing off nearly a pint of reddish-brown fluid. Some of this was received in a sterile tube and sent to the laboratory for examination. On the following day the patient was very well although weak; he was free from pain and had enjoyed some sleep. He progressed most satisfactorily. On May 13th it is noted: "The drainage tube has been removed and a smaller and shorter one inserted. The discharge is decreasing and becoming serous in character." It was soon trifling in amount and entirely serous, while the patient rapidly gained flesh and strength. On June 3rd, the wound having been absolutely healed for some days, he was allowed out of bed, and on June 10th was sent to the convalescent home. Dr. Carl Browning reported as follows regarding the discharge:

"Amoebae, containing red corpuscles, were seen in the pus. Cultures yielded no growth of any kind."

This tropical abscess of the liver, therefore, was solely due to the protozoal organism, being sterile so far as *Bacillus coli* and cocci were concerned. This is, I believe, in accordance with what is usual. It seems marvellous that the amoebae of a dysentery contracted and satisfactorily recovered from in South Africa should remain in this soldier's liver and put his life once more in danger in Glasgow six years afterwards by the sudden development of hepatic abscess, that well-known sequel of dysenteric disease. But the fact is one beyond any possibility of dispute.

SALVARSAN ("606") AND ARSENIC CANCER.

BY

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IT is now known that the active agent in the so-called "606" is arsenic, and as it has gained wide popularity, it becomes a duty to examine and record the facts which concern its possible drawbacks.

I have been myself through a long professional life a zealous, not to say enthusiastic, advocate for the two minerals—arsenic and mercury. They have been, indeed, my sheet anchors in practice, compared with which all the rest of the *Pharmacopoeia* has seemed almost useless. They are remedies concerning which definite assertions may be made, and from which definite results may be always expected. They are tools concerning which all that has seemed necessary was that we should know how to use them.

My faith in their efficiency remains, after more than sixty years' experience, unshaken, but, as I very much regret to say, regarding one of them, I have been obliged of late years to feel that there are drawbacks which almost forbid its use. In former years I regarded arsenic

when employed in medicinal doses, as curative in a large proportion of the chronic diseases of the skin and of benefit in many of those of the nervous system and the blood. I knew of no important drawbacks and believed that it might be used with impunity and usually with great benefit to the general health.

I had learnt the use of arsenic from the writings of Dr. Hunt and from the practice of the late Mr. James Startin, whose junior colleague I was for many years at the Blackfriars Hospital for Skin Diseases.

In the year 1850 a collective investigation was instituted by the British Medical Association (then the Provincial Medical and Surgical Association) to determine whether the practice of prescribing arsenic for various affections, which was then becoming common, was really safe. The conclusions reached after the collection and consideration of much valuable evidence were affirmative.*

During the middle period of the last century probably there were few practitioners who used arsenic more freely than I did, for I was a pluralist with a very large field of observation, as I held appointments at several large institutions, and I had no serious misgivings as to the drug.

About 1880 it occurred to me to observe that common herpes zoster frequently followed arsenic, and I soon became convinced that they were cause and effect, and ventured to state this conclusion repeatedly in my clinical lectures. My friends at first assured me that I was attaching undue importance to what were mere coincidences. This, however, did not last long, for arsenical zoster was tolerably common and came within the experience of many, and it is, I suppose, now accepted as one of the best established facts in reference to the use of drugs. It was, indeed, the frequency with which zoster occurred which led to the identification of arsenic as the cause of the epidemic in connexion with poisoned beer a few years ago.

Not very long after the observation of the association between the use of arsenic and herpes zoster another and much more serious revelation took place. A succession of facts convinced me that the use of arsenic might be not only responsible for a comparatively unimportant eruption on the skin—the transitory neurosis known as "herpes zoster"—but could give proclivity to cancer. The importance of this fact—first made public, I believe, about the year 1887—is, I am assured, now widely acknowledged. I cannot claim that it is universally so. Facts have, however, accumulated both at home and abroad, and so long ago as 1902 a distinguished French authority—M. Darier—whose opinion, I believe, records the experience of many others, expressed himself as follows (*Semaine médicale*, December 10th, 1902):

> I now show you a man, aged 47, whom I first saw in 1890. At that time his face and neck showed confluent patches of pigmented lenticular spots and vascular maculae, while his hands and feet were the seat of diffuse hyperkeratosis associated with numbers of warty outgrowths. I lost sight of him for some twelve years, but in the spring of the present year, 1902, he came to see me again. The pigmentary and telangiectatic conditions had diminished, but the warty condition remained. Four of the growths, one on the neck and three on the hands, had become transformed into true epitheliomata, a fact which was confirmed by histological examination after their removal by the curette. At the present time a new epithelioma can be seen in process of development at the angle of one of his eyes. The origin of these cutaneous lesions is explained by the fact that this patient (by way of treatment of a chronic bronchitis accompanied by induration of the pulmonary apices) took for ten years (between 1886 and 1896) a daily dose of 12 drops of Fowler's solution on twelve days of each month and 7 drops for seven days of each month during the following five years (1896 to 1901).
>
> We are aware that in 1887 J. Hutchinson put forward a view that there was an arsenical form of cancer; it was received with some scepticism, but has since been confirmed by a certain number of observations. The case now before you appears to afford his belief very material support.

Since then M. Dubreuilh, the distinguished surgeon of Bordeaux, has published an excellent summary of the whole subject, and has drawn up a table of 19 cases of arsenical cancer (see *Annales de Dermatoses*, February, 1910).

I must not trouble the reader with my own narratives of cases; many are given in some detail, and with several pictorial illustrations, in one of the more recent fasciculi of the New Sydenham Society's Atlas.

I may, however, just mention briefly one of the most recent facts which has been brought under my notice in this connexion, since there are social reasons for its delayed publication in detail. I am informed of a young married lady who has become the subject of multiple epithelial cancer concerning which her surgeon writes to me:

> It is a typical example of what you have described as "arsenic cancer." The case will, I believe, soon be published.

The patient took arsenic for long periods for the cure of psoriasis in girlhood, and is now, after her first confinement, the subject of epithelial cancer in several different situations.

I think, therefore, that I am justified in stating that it is proved that the use of arsenic may create a proclivity towards malignant forms of growth. These are not by any means always the same; most conspicuous and frequent are epitheliomata, but they are by no means the only ones, for various forms of sarcomata and probably endotheliomata occur in the same connexion, and possibly in the same individual.

It would appear that this most powerful drug can give tendency to aberrant forms of nutrition in various directions. I must confess that I have felt somewhat astonished that the facts which appear to justify this conclusion have claimed so little attention from recent writers on cancer. They appear to me to be of the very first importance in reference to our creed as to the possible causation of these neoplasms. The term "arsenic cancer" is somewhat misleading, since it is apt to concentrate attention upon certain cases, unquestionably rare, in which the evidence appears to show that the direct and efficient cause of a peculiar form of cancer is arsenic. These are probably only very exaggerated forms of what in minor degrees is very common.

What we ought to understand is that arsenic originates, or intensifies if already present, a general proclivity to this mode of growth; nor ought it to be hastily assumed that prolonged use of the drug is necessary to this effect. Many of the well-known results of the medicinal use of arsenic occur not after very prolonged courses, but after comparatively short ones, and it is well known that an almost indefinite length of interval may occur between the use of the drug and its manifestation. It is to these facts that it is due that so much has been overlooked in the past and is probably still overlooked in reference to this most potent drug.

I must not, however, write a dissertation upon them. My object in the present paper is simply to invite the attention of those who may be inclined to prescribe this newly vaunted remedy for syphilis without due recognition of its possible danger. For myself, since I became aware that arsenic gives proclivity to cancer I have almost abstained from its employment, and would now advocate its use only in cases which very specially demand it.

Another part of my subject must be left for the present; if I ever enter upon it on another occasion it will be to show that but little has been alleged respecting the new remedy which is not equally true of mercury and the iodides when properly and boldly used.

If it be asked how arsenic acts in giving proclivity to cancer, it may be suggested that it is as a depressant of growth power rather than as stimulating it. By diminishing the vigour of the forces which favour normal animal organization it permits remotely and after an interval of degraded types of growth more nearly allied to those of vegetation.

I wish, however, to advance no theories, but to confine myself to showing evidence of the clinical fact.

* A summary of these conclusions was given by myself in one of the early volumes of my *Archives of Surgery*.

AT the recent annual meeting of the International Medical Association for the Suppression of War (Rue des Mathurins 25, Paris) Dr. J. A. Rivière was unanimously re-elected President, and it was decided that the congress in Paris this year should be held at the end of October instead of in September. The subjects for discussion thereat were also selected. Only one is of a distinctly medical character—namely, international hygiene. The rest deal with differences in language, weights and measures, and monetary systems, and other analogous matters deemed by the society to obstruct the road towards universal and enduring peace.

Remarks
ON
THE PLACE OF THE HOSPITAL IN A CIVILIZED COMMUNITY.

MADE IN OPENING A DISCUSSION AT A MEETING OF THE SUNDERLAND DIVISION OF THE BRITISH MEDICAL ASSOCIATION, MARCH 30TH, 1911.

BY

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ALL around us we see the clearest indications that great dissatisfaction exists with regard to the means at present available in this country to meet the requirements of considerable sections of the community who are in need of medical assistance. This dissatisfaction is expressed with almost equal strength on behalf of the public, large numbers of whom are said to fail to obtain the help they ought to have, and on behalf of the medical profession, many of whom are stated to be overworked and underpaid. The two-sided nature of the complaint may perhaps be regarded as a hopeful sign by those who have faith in the possibility of ultimate improvement. The wrongs of a small class, such as a section of the medical profession, would be difficult to right if the community as a whole was unable to recognize that wider interests were involved, nor would the public easily secure the reforms which it regarded as desirable in its own behalf if it were faced with the apathy or resistance of an entirely satisfied profession. Whether the prospects are hopeful or not for a speedy and thorough removal of these unsatisfactory conditions, there are sure signs of impending changes in many directions. The great interest aroused all over the country by the reports of the Poor Law Commission and by the attempts of the authors of its two main sections to secure public sympathy with their particular views, is already compelling many changes such as can be effected by departmental regulation, and must shortly result in extensive legislative action. The present Government's promised scheme for insurance against sickness and invalidity will profoundly alter the conditions under which vast numbers of the working classes will find themselves when in need of medical aid. If one may judge from previous experience, the probability is that in accordance with the spirit of our people, such changes as are made will be effected in this or that direction as urgent necessity demands, or as some point of little resistance allows, with no very clear idea of fitting the various items into an effective and harmonious whole. This prospect makes it all the more desirable that sections of the community who have special knowledge and experience of various departments of work connected with health questions should lose no time in evolving for themselves a clear conception both of the general problem before the nation and of the relation of this general problem to its component parts, and of these several parts to each other. The medical profession must not only make up its mind as to the direction in which it desires reform to be guided in order that its own independence and power for good work shall be maintained, but it must take steps to make clear to the public the practicability and sanity of its proposals.

Many sides of this broad question are now under the consideration of the British Medical Association and are dealt with in the exhaustive report recently issued to Divisions on the organization of medical attendance on the provident or insurance principle. To-day I propose to consider the small part only of the question indicated by the title of our discussion—"The Place of the Hospital in a Civilized Community." If we desire to reach an agreement on this question we must clearly not differ very widely as to our general views of the aims of our civilization and the functions of a hospital. I do not think I shall have much difficulty in securing your acquiescence in four propositions with regard to the hopes and duties of a modern civilized community which are relevant to our present inquiry.

PROPOSITION I. *That no community can regard itself as civilized which does not recognize a common duty to render medical assistance to those of its members whose condition of health makes such assistance necessary and whose economic position does not enable them to secure it.*

To agree with this proposition we need not be prompted by identical motives. To some the chief motive will be sympathy with suffering, to others the prevention of race degeneracy, and to others again the maintenance of the economic fitness of the present workers of the nation. With such a variety of motives impelling us there is little fear that this proposition will be unacceptable save to an insignificant number of quite peculiar individuals.

PROPOSITION II. *That it is undesirable for any civilized community, as at present organized, to provide without cost medical assistance for all its members regardless of their economic position.*

The words "as at present organized" are introduced in order to enable this proposition to be acceptable to any of our friends with advanced collectivist views. I would ask such to recognize that we are dealing with things as they are, and not as they may be in the distant future.

PROPOSITION III. *That every civilized community should encourage its members to make provision by some method of mutual insurance against those insurable risks which without such assistance they are unable to meet.*

As a general principle this is not likely to be denied to-day. There are few, if any, who agree with the view of the considerable number of our forefathers who regarded life insurance as an immoral means of cheating Providence. To accept this principle does not commit us to approval of Pluvius policies for holiday makers or other extravagances of insurance not far removed from gambling, nor does it indicate sympathy with the proposal that the State should actively take part in the business of insurance. I ask your acquiescence merely in this general principle, and shall of course later apply it to the concrete and reasonable example of the provision by methods of mutual insurance against the costs of medical assistance.

PROPOSITION IV. *That in every civilized community specialization of effort is essential to effective performance.*

This proposition will be recognized as having a strict relation to my subject. Please note that this does not say the greater the specialization the more effective the performance. The great principle that one can have too much of a good thing applies in civilized communities as well as in those not yet weaned from cannibalism. We in the medical profession are not likely to fail to recognize the possible evils of excessive specialism. For the purposes of my argument I find it necessary to emphasize the fact that specialization means not only that certain individuals or institutions are recognized by the community as being set apart to do certain things, but that they are also recognized as being set apart not to do other things. To use a dentist to shoe horses is as great a neglect of our principle as to use a blacksmith to pull out teeth. The dentist may be able to shoe a horse and shoe it well. From the point of view of the community, however, it is an extravagant disregard of an important principle. It is a principle which must be considered in defining the proper work of an institution as well as of an individual. Later I shall hope to show that this principle is disregarded in our modern method of using hospitals, and to indicate the necessity of paying strict attention to it if we are to succeed in assigning a proper place to these institutions.

I must now ask you to allow me to leave these four propositions for a time and to submit to you certain considerations with regard to the fundamental ideas underlying the true functions of a hospital. It must at the outset be recognized that there are several distinct aspects of hospital work, none of which can be neglected if we are properly to understand how best to use and develop these institutions. These various aspects may be briefly defined as the charitable, the economic, and the scientific. So closely intertwined have these different functions become that it is difficult to isolate them from each other. But I wish to emphasize what I believe to be the fact—that even if we could imagine a civilized community from which all poverty and need of charity were eliminated, so that every one could obtain by adequate payment all that he required in the way of medical assistance, a hospital would still be as necessary an institution as a road or a train or a school. No intelligent community would be

willing to forego the common advantage that accrues from the growth and dissemination of medical knowledge in a place where men of science meet to assist each other in the observation and treatment of disease; no community, even if composed entirely of millionaires, would disregard the convenience, the economy, and efficiency secured by bringing together under one roof the complicated accommodation and appliances for investigating, nursing, and treating patients suffering from certain diseases. Whether we have regard to the economical and efficient treatment of the individual patient or to the advancement of medical science the hospital appears to be an essential factor in the accoutrement of the profession in its fight in the cause of health, apart altogether from any consideration of the poverty of patients. On the other hand, it must be acknowledged that the original development of the hospital was entirely from the point of view of its function as a charitable institution. Poverty of a very dire character could alone induce a patient to risk the discomfort and dangers of the hospital, even as late as the middle of the last century. The hospital as the most efficient instrument of professional treatment for certain diseases is a comparatively modern institution. It is to a large extent the product of that scientific progress in medicine of which it is now so efficient a handmaid. Without the invention of the microscope and our resulting knowledge of diseases of bacillary origin and the aseptic methods of surgery the hospital might still have remained the resort only of those who lacked a bed to be ill or to die in. But for the extraordinary advances that have been made in medicine and surgery in the last generation the hospital problem of to-day might have been the solution of the simple question of the Charity Organization Society—"What evidence has this man shown of thrift?" The more clearly we adopt the conception of a hospital as a place where certain special professional services can best be rendered to certain patients specially needing these services the more difficult does it become to consider it as merely a charitable institution strictly reserved for those below a certain level in the social or economic scale. The question has gradually become not "Is this patient poor enough to be admitted to the hospital?" but "Is he ill enough, or is his illness of the kind to require the special services which the hospital is organized to render?" The charitable function of the hospital remains, but it must needs become a very carefully discriminating charity, a charity which must consider not only the economic condition of the patient but the exact nature of the medical services he requires.

We have now reached the point when I think we may ask ourselves, Do we intend that the hospital whose place in a civilized community we are trying to define shall continue to develop along its three parallel lines of charitable, economic, and scientific effort?

For my part I hope that you will so decide. This is the direction of least resistance; it is an evolutionary and not a revolutionary movement, and it keeps our institutions in harmony with traditions of the past of which, as a nation, we are justly proud. But we must move on, and move on quickly. The pressing need of forward movement on the scientific line has, in my opinion, never been better stated than by Professor Osler in a recent address, which some of you probably heard him deliver, before the Northumberland and Durham Medical Society under the title of "The Hospital Unit in University Work." I had the pleasure of reading the address in the *Lancet* for January 28th last, and would cordially recommend it to the notice of all interested in hospital administration. I will merely quote a few lines. "Speaking from a comparatively wide experience of hospitals," says Professor Osler—and no living man I fancy has a wider—"I say unhesitatingly that the average level of comfort and care is nowhere so high as in this country, and in no small measure is this a tribute to the character and training of the women connected with them. But there are very glaring defects, foremost among which is the absence of proper laboratory accommodation in pathology, bacteriology, clinical chemistry, and microscopy." The first sentence gives us just that sense of pride and satisfaction with ourselves which it is hoped will encourage us to take to heart the scathing criticisms to which the speaker later on submits our obvious failure to make the hospital the perfect weapon it ought to be in the hands of the profession in their combat against disease. With what Professor Osler says in this address about certain of the present arrangements being "antiquated and in every way ill adapted to modern conditions," I thoroughly agree. I sympathize, too, with nearly all of the suggestions that he makes for improvement, and with his final conclusion, as to the feasibility and necessity of reform, I concur. "It can be done: in fact, it has to be done if British medicine is to adjust itself to the new conditions, and so maintain its splendid traditions." Professor Osler believes an important step in enabling the hospital to develop itself along the scientific line is to secure more intimate economic relation between the hospital and the university. This may be so, but it could of course have an effect on only a very limited number of hospitals, and would entail much interference with vested interests. I look more hopefully to the effects of altered relations on the part of the hospital with the whole community—changes which are entirely within the power of the hospitals themselves to make, and which involve no complicated financial or administrative negotiations with other institutions. The highest development of the hospital along the charitable, the economic, and the scientific line will only be possible when the hospital recognizes, and takes, its proper place in the civilized community. The modern hospital has indeed almost entirely failed not only to recognize that it has a proper place in a civilized community, but even that there is any civilized community for it to have a place in. I hardly think I can justly be accused of exaggeration when I say that many of our hospitals take as little regard of the existence of surrounding agencies for the treatment of disease as a medical mission in Central Africa would take of the native medicine man. They would seem to be entirely oblivious of the fact that in this country there is one of the most extensive systems of Poor Law medical relief in the world; that millions of workmen have contracted for medical attendance through the friendly societies; that for other moderately poor people similar help is given by means of provident dispensaries, whilst private medical practitioners are prepared to sell their services to needy people at fees which are beyond the reach of comparatively few.

Something may possibly be said for the point of view of the medical missionary, who regards the competing medicine man as a negligible quantity. But surely it is the first duty of the governors and medical staff of a hospital in a civilized community to consider in what way their institution can best supplement and not replace the efforts of the many legally qualified medical men working in various capacities amongst the surrounding population. If it is recognized that it is a proper and reasonable thing for the community to set up a Poor Law medical service, if we believe that poor people ought to be encouraged to join clubs and friendly societies and other provident agencies, if we do not believe that everybody who wants to get treated for nothing should be allowed to, and if, finally, we agree that to find one's right work and stick to it is the proper policy for institutions as for men, can it be doubted that the duty of the hospital is to co-operate with and not to compete against all these other agencies? And at this point I fancy I can hear some hospital administrators protesting: "We do try to co-operate, but it is so very difficult. If we see a man who is obviously a pauper we tell him he ought to go to the relieving officer, or a wealthy man we advise to consult his own doctor, but it takes longer to get these people to go away than to treat them, and it might offend our subscribers; and, after all, they probably only go to another hospital. Indeed, we have tried to co-operate with provident dispensaries, and have even posted notices about them in our out-patient departments, but the provident dispensary doctors do not seem very anxious to send us their cases. We are always prepared to take any patients sent by private doctors if they are not too well dressed, but we find that these are generally the cases which our almoner reports as unsuitable. Some of us have, indeed, instituted a charge of 3d. for a week's supply of medicine so as to avoid all competition with the general practitioner. But we can never forget that the hospital doctors we have chosen are so very clever, while all other doctors are so terribly ignorant that we cannot bear to think of any poor people being allowed to choose their doctors for themselves" Hospital adminis-

trators who are thinking and working on these lines may be trying to find the place of the hospital, but they have not found it yet. Co-operation and competition will not run in double harness. The private doctor and the provident dispensary cannot afford to send their more difficult cases for further help to the hospital, where the patient and his friends soon learn that they might as well have gone in the first instance and saved their fees or their subscriptions to the dispensary. Co-operation between institutions to be successful must be complete. You must not run with the hare and hunt with the hounds. The wholesale merchant who opens a retail shop soon finds he loses the custom of retail dealers. The barrister who consented to receive clients directly would soon find himself neglected by solicitors.

May not the place of the hospital which we are seeking to define be stated in the following terms? The hospital should undertake to see and treat those patients only who, having already sought the assistance of a medical man—be he private practitioner, club doctor, officer of the Poor Law or of a provident medical institution—are found to require some additional special advice or treatment such as they are unable to pay for and such as is within the capacity of the hospital to supply. In other words, the hospital should be a second line of defence or reserve—a purely consultative institution. Hospitals should provide for the poorer classes of the community just that additional assistance which a member of the wealthier classes already under the care of a general practitioner is in the habit of obtaining from a consulting physician or a consulting surgeon whenever special advice or treatment becomes necessary. To be successful in providing these special services for these poor patients the hospitals must restrict themselves to this work. They must not also provide simple medical and surgical treatment for all comers who like in this way to save themselves the cost or trouble or indignity of securing treatment through other channels. They must, in fact, recognize the principle of specialization which lays down not only that a special institution should be entrusted with special duties, but also that it should relinquish other duties which can be as well, or better, done by some other organization. I hope that I have established the point—at any rate theoretically—that the ideal position of the hospital in a civilized community is to do necessary work which it is best fitted to do and to leave undone work for which others are equally well or better fitted.

I must now approach the question more from the practical side, pointing out some of the immediate benefits that would accrue from the development of hospitals on these lines, and answering some objections that have been, or are likely to be, raised. With regard to the feasibility of the arrangement I need say little. It would only be necessary for any hospital, preferably in agreement with its neighbours, but, if not, then independently, to give notice that on and after a certain date patients only would be seen or admitted who were brought or sent by a medical practitioner who had already investigated the case and was in medical charge of the patient. In the past most hospitals used to, and at the present day many still continue to, restrict their patients to those bringing recommendations from subscribers. In many cases, therefore, this reform would only entail the adoption of a different kind of restriction. Already a hospital in London is working on these lines, and finds the result satisfactory, though at present it has not persuaded others to adopt the same plan, and is therefore competing against the open-door system of many powerful neighbours.

What immediate advantages may be expected when this plan is more widely adopted? Advantages would be apparent both at the hospital and away from the hospital.

The hospital and all connected with it would be stimulated to the highest class of work. Every case would be entrusted to it because it had been recognized that some special skill in diagnosis or treatment was required. The general standard of scientific work must be of the best. It would be submitted to the criticism of, and make its appeal to, members of a profession well qualified to judge, and not to the public, who are incapable of estimating the true value of scientific medicine and surgery. The drudgery of long hours of out-patient and casualty work and of hastily examining and prescribing for large numbers of patients suffering from trivial ailments would be removed, and the officers, now thus employed, would be set free to assist the visiting staff in unravelling the problems submitted to them by their colleagues outside the hospital. Investigations begun in the hospital could be continued by the outside practitioner in charge of the case, and ultimate results duly reported and recorded. The orderly regulation of the admission and discharge of cases could be more easily secured when each case was under professional care until the moment of admission, and would naturally on discharge return to the same care for the continuance of any necessary after-treatment or for persistent observation. The cordial co-operation of the neighbouring practitioners would replace the thinly-veiled hostility with which it is but natural that the hospital is now regarded by many of them. In fact, doing its own work, and only its own work, the hospital would constantly become a more proficient instrument, and would secure the approbation and help of those engaged in similar but not competitive occupation. Away from the hospital the advantages should be equally apparent. Freed from the competition of their most powerful rival, agencies for the primary treatment of the ordinary diseases and injuries of the sick poor might be trusted at once to improve their organization. Those defects in the Poor Law Medical Service which are at present largely hidden from public view by the promiscuous charity of the hospitals would be brought to light, and would be remedied. All forms of provident provision for medical attendance would be placed upon a better footing. The possibility of practitioners securing second opinions and operations by specialists on their poorer patients, while still remaining their patients, would add enormously to the interest of private and provident professional work amongst the labouring classes. No longer fearing the risk of losing their patients and their patients' friends by the proceeding, the reference of cases for further advice to the hospital would become extremely popular amongst doctors practising in the neighbourhood. Every interesting case thus dealt with at the hospital would provide valuable experience to the private practitioner to the obvious advantage of all his other patients. In this connexion I cannot do better than quote Professor Osler again. This time he is dealing with Organization in the Profession, and his remarks made at Nottingham are published in the British Medical Journal for February 4th last. Speaking of county hospitals as centres for the diffusion of medical knowledge he says:

> The members of the staff of the hospital have the matter in their own hands, and what I wish to urge is the responsibility that each of you should feel to make his department a centre of information for the profession of the district. You who do the work would get the greatest good, as you will grow in wisdom and increase in value as sane advisers; the hospital would be benefited as its influence would be helped, as working in the open with keen eyes upon you is a great stimulus in diagnosis, and even in treatment; the general practitioner frequenting the wards and special departments will be able to maintain a circulation in his "grey cortex" active enough to counteract the benumbing influence of routine, in which way alone he may avoid the fate of the purely practical man, who, as so well characterized by Disraeli, practises the blunders of his ancestors. And, lastly, the public will be the gainers, as men keenly appreciative of the rapid progress in medicine will render a better and more intelligent service. The public in this will find a return for the ungrudging support which they give to the hospitals.

Please note that Professor Osler is speaking of a condition that ought to exist and does not. It does not concern us particularly to inquire by what means he hopes to secure it. By no possible means could it be secured to its fullest extent while the hospital maintains its present disregard of the work of others, whereas, on the other hand this splendid ideal will inevitably and almost insensibly be achieved so soon as the hospital recognizes and takes its proper place amongst other medical agencies. Truly the picture seems so alluring that one wonders that this change has been so long delayed. Perhaps we can best understand the reason for this if we consider in detail objections that will almost certainly be raised in some quarters to the general adoption of this proposal, even at this late hour. We shall certainly hear that the diminution in the number of attendances of patients at the hospital will lessen the support of subscribers. I cannot believe that subscribers,

whether wealthy philanthropists or associations of working men, are so foolish as to be unable to distinguish between quantity and quality of work, or that hospital administrators are so lacking in persuasiveness as to be unable to turn a reform of this truly beneficent character to excellent account at their annual meetings and periodic applications for subscriptions. Working men's committees will at least understand that one cannot expect to get the best work out of a chisel if one uses it also to drive screws. A much more serious danger is ahead of the hospital treasurer if he neglects to watch the trend of public opinion and move his institution with the times. The public is determined that so far as that class of person is concerned who lacks a comfortable bed to be ill in, his need shall be met by public funds if not by private philanthropic effort. Adequate accommodation of this sort will be provided by the State before very long by extension of, and removal of the pauper taint from, workhouse infirmaries. Public support will indeed be difficult to obtain for voluntary hospitals when this is carried out, unless the philanthropist can be assured that his protégés will in the charity obtain something different from and better than anything he can obtain in the municipal infirmary. A hospital placed in such relation to other institutions as we have just been considering will clearly be able to offer something from a medical point of view absolutely necessary in certain cases, and altogether different from, and superior to, the State provision. Such a hospital can confidently be recommended to the philanthropist or the working man subscriber as an institution in the support of which he will not be merely relieving the rates. Those who are proud of our voluntary hospital system, and desire to see its splendid service to the sick, as well as to medical education and research, maintained and developed, may certainly be urged to support this particular movement for hospital reform.

A second objection that may be raised is that certain cases that now come direct on their own initiative to the hospital and receive there treatment of vital necessity might under the new scheme fail to reach the hospital until too late for effective aid. This is one of those arguments that cut across organization in all human affairs, and which, although specious, are entirely fallacious so far as the common good is concerned. I suppose it will be true of some cases. A patient, not feeling very well and being of an adventurous spirit, applies to the hospital, and, being thoroughly examined, is discovered to have a very early internal cancer, which is immediately removed. It is, of course, possible that this patient, under the new régime, coming first under the care of her private doctor, or the doctor of her friendly society or provident institution, might not secure such immediate and thorough examination, and might not be sent to the hospital till the disease was further advanced and had produced definite symptoms. Similar good luck may befall individual cases in all sorts of human arrangements which are nevertheless entirely against public policy when their total effect on the community is considered. The most promiscuous distribution of coins in a crowd may occasionally afford opportune relief to a thoroughly deserving and unfortunate individual. Against this accidental individual gain we have to set to the credit of the present system a mass of preventable misery, pain, and disappointment, which would be almost unbearable by those who have daily to witness it had not long custom led them to regard it as an inevitable accompaniment of poverty and illness. The hopeless chronic cases painfully trudging week after week to the out-patient departments; the feverish babies brought up time after time through the streets to the casualty department until their bronchopneumonia is sufficiently advanced to warrant admission and defy relief; the unselected crowds of patients waiting investigation and handing on to each other their unrecognized infectious diseases; mothers waiting whole days with their sick children, whilst the babies are left untended at home; the delicately nurtured but poor woman on whose account the doctor wants further advice, but who cannot face the waiting and the crowd. Under the consultative system much of this misery and unnecessary hardship could be eliminated. The agencies for primary assistance would provide domiciliary treatment for those too ill to go to and fro, and would arrange for the direct transference from the home to the ward in all cases of critical illness. Definite appointments could be made for out-patient consultations, and at least the child with obvious whooping-cough or ringworm would not be sent to mix with others in the totally indefensible unclassified casualty department.

For the one case, of which we hear so much, which might escape the necessary hospital treatment under the new arrangement, dozens equally suitable would get it who do not get it now. The argument of those who fear that some early cancers or glaucomas may escape detection would seem to be based on the view that a patient is a better judge of when he needs specialist advice than is a medical man. Surely all the evidence is against this. Hundreds of people now seek no advice of any sort until it is far too late, and one of the greatest advantages of putting the hospital into its proper place will be that far more patients will be induced to enter into contracts with general practitioners, and will thus be encouraged to call for medical help in the early stages of illness.

The last objection with which I can deal concerns only the small number of hospitals which are also medical schools. On behalf of these institutions it is stated that the lessening of the numbers in the casualty and out-patient departments will be bad for medical education. On this point I think I can speak with authority, as I have taught in out-patient departments for nearly twenty years. I unhesitatingly affirm that in an overcrowded out-patient department nearly all the methods a student learns he would be better for not knowing. Leisurely and complete observation is essential for scientific work. The hasty and brilliant diagnosis by old hands in the out-patient department provides the worst possible example for students and young practitioners. I am confident that a little reflection will show that selected cases such as will be provided by the proposed arrangement will form much better material for teaching, whilst the lessening of the crowds of trivial and unsuitable cases will enable the teaching to be organized on a much more satisfactory basis. It may be necessary, and I am sure it would be advisable, to arrange for every student to gain systematic experience in the treatment of minor disorders by attendance at a provident dispensary. The general practitioner seeing cases at these institutions will be a better teacher of the management of chronic ulcers of the leg and other common ailments than is the operating surgeon who spends most of his working life performing laparotomies. The association of the general practitioner with the education in the medical school would form another link in binding together the hospital staff and medical men working around the hospital, which Professor Osler regards as such a desirable proceeding.

I have not chosen these three objections because I felt that I could most easily deal with them, though I hope you will agree that I have been able to answer them to a considerable extent. They have seemed to me objections which have been most frequently and stoutly advanced by champions of the existing conditions. There may be others advanced to-day. I hope, however, I have established that on the balance the advantages of the proposed change will outweigh any possible temporary disadvantages. Whether we look at the question from a practical or a theoretical point of view, the first essential step in promoting the efficient treatment of sickness amongst the poorer classes is the fixing of the proper sphere of activity of the various agencies. The hospital is one of the agencies of such supreme importance that when its place is once fixed, the task of adjusting other agencies around it should be materially lessened.

With this object in view I confidently bring this proposal before you, not as a startling and brand-new project which you may think over now and adopt in the millennium. It is the inevitable and necessary next step in the evolution of our great medical charities. Every hospital administrator would recognize this for himself if he were not so busy scraping together money and dealing with the problem of overwork that he has no time to look about him and see that in co-operation with the willing agencies outside and around his hospital lies ready to his hand the means, and the only means, of enabling him to find for his institution its proper place in the community.

THE SYPHILITIC FACTOR IN THE HEMIPLEGIAS AND DIPLEGIAS OF INFANCY AND CHILDHOOD.*

BY

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AMONG the children who attend the out-patient departments of hospitals there are none whose condition is more pitiable than those who suffer from the physical and often also the mental disabilities consequent upon hemiplegia or diplegia.

Our knowledge as to the actual causes of these types of paralysis is, unfortunately, much less precise than it is with regard to similar cerebral paralyses occurring in the adult. Many efforts have been made by able observers in the fields of neurology, of general medicine, and also of surgery, to refer infantile cerebral palsies to their ultimate causes, and it is only by an accurate knowledge of the latter that anything like success in dealing with these conditions can be attained.

CLASSIFICATION.

At present the most useful classification of these early upper neurone paralyses is that which divides them into three classes according to the supposed time of onset—that is, antenatal, natal, and post-natal. It is obvious that such a subdivision as this, depending as it does on no pathological basis, although at first sight satisfying, is really far from final. The one useful feature about it is that it clearly defines the position of the cerebral palsies due to natal accidents—that is to say, to haemorrhages. In order to clear the ground, I will state briefly the characters of this class, and then, since syphilis has no part in its production, refer to it no more.

Natal Paralysis.

In birth palsies due to haemorrhage the lesions are more often on the surface of the brain than in its substance. As pointed out by Harvey Cushing, the veins which ascend from the middle part of the convexity of the hemisphere to the superior longitudinal sinus are the vessels most liable to rupture. So long as they follow the cerebral sulci these veins are protected, but at the vertex where they cross the subdural space to enter the sinus or its para-sinoidal recesses, they are unsupported. Undue overlap from cranial moulding may tear one or more of the veins away from the sinus walls. As a result of the laceration, free intradural haemorrhage occurs, the bulk of the clot being near the vertex, and on one or other side of the falx cerebri. Consequently the damage to the motor centres for the legs is more extensive than that to the motor centres of the arms.

The clinical characters of the natal paralysis are as follows: Firstborn children more often suffer than the subsequent offspring, and male children, having larger heads, are more likely to be injured than females. The children of elderly primiparae run especial risks.

The occurrence of *post-partum* asphyxia is common. The fontanelles bulge, and may be so tense that they cease to pulsate. Convulsions are frequent, but may not appear until several days after birth. The fits are often unilateral. Vomiting is sometimes a marked feature.

There is great exaggeration of the deep reflexes, and may be, even at this stage, evidence of paralysis of the limbs. Ocular palsies are common, especially a difference in the size of the pupils. In severe cases signs of pressure on the medulla may occur in the form of alterations in the respirations and disturbance of the cardiac rhythm. Epilepsy results in two-thirds of the cases, the convulsions often being Jacksonian in character.

Immediate craniotomy, the whole parietal bone being raised as an osteoplastic flap, for removal of the clot, has given excellent results. Little or no good can be expected from cranial operations performed months or years after the incidence of the lesion.

SYPHILIS AND UPPER NEURONE PARALYSES.

Having eliminated the natal or traumatic paralyses, we may now proceed to the proper subject of this paper, which is the consideration of the relation of syphilis to the upper neurone paralyses of infancy and childhood.

The knowledge that syphilis is such a potent factor in the production of paralyses in the adult has led to much critical inquiry into the part it may play in producing the paralyses of the early years of life.

The late Dr. Hadden conducted one of the most interesting investigations of this nature amongst his out-patients at Great Ormond Street. He embodied his results in a paper entitled Infantile Hemiplegia with Acute Onset.[1] To his conclusions I shall refer later.

The general consensus of opinion is that syphilis is *not* a common factor in the upper neurone paralysis of childhood, and this opinion appears to be based on very good grounds. Nevertheless, a reconsideration of the part syphilis plays may be instructive and appears to be desirable for two reasons: First, because, in some cases at least, a permanent and crippling disability of both body and mind may be prevented by an intelligent anticipation of events; and, secondly, because, thanks to the methods of diagnosis perfected of late years, it may yet turn out that syphilis is a more important factor in the production of these paralyses than many have suspected.

Characters of the Lesions Found.

We are not concerned with cases of juvenile general paralysis and cases of juvenile general paralysis with tabes. These are not at all common; but we have it on the authority of Dr. Mott, based on his experience in the London county asylums, that, even in comparison with degenerative syphilitic lesions, cases of infantile syphilitic hemiplegia and diplegia are rare. Many other writers who have had occasion to search for the records of such cases agree as to their fewness. A plausible suggestion is that their scarcity may be explained, not by immunity of the cerebro-spinal structures in infants and children, but by the death of those severely infected with syphilis, either before birth, or at all events shortly afterwards, from such causes as convulsions, meningitis, or hydrocephalus.

Accounts have been published by Sir Thomas Barlow, Judson Bury, Angel Money, and George Carpenter, amongst others, which permit the formation of a definite conception of the morbid anatomy of the disease, and warrant the general conclusion that the changes likely to be found in the brains of paralysed syphilitic children bear a close resemblance to those which may occur in the syphilitic adult. The multiplicity and combination of the lesions are striking characteristics—that is to say, leptomeningitis pachymeningitis, endarteritis, and even gummata, are associated in varying degrees.

The cases recorded by Sir Thomas Barlow are as follows:

1. A full-term child suffered shortly after birth from snuffles, thrush, and persistent soreness of the nates. The succeeding child was healthy, but there had been one miscarriage at ten weeks. The patient was emaciated, suffered from diarrhoea, and had small shotty glands in the neck. At the age of 15 months there was general weakness of both sides of the face, with frequent laryngeal spasm, and inconstant, rather coarse, nystagmus. No antisyphilitic treatment was attempted, the case being regarded as one of tuberculosis. The child soon died. A gummatous infiltration of the cranial nerve trunks was found; it involved the fourth, fifth, sixth, seventh, and eighth pairs. The basilar artery and all the component vessels of the circle of Willis presented opaque white thickenings which narrowed their lumina. By use of the microscope typical syphilitic endarteritis was revealed.

2. A girl baby, who died at 10 months, but was first seen four weeks after birth. The father had suffered from syphilis, and the child had snuffles. Between the ages of 1 and 4 months she had eleven fits. She was wasted, and serpiginous ulcers appeared on the nates. Treatment with mercurial inunction and cod-liver oil was instituted. At eight months she was worse again with tetany and laryngismus. Early disseminated choroiditis was discovered in each eye. At 10 months a *post-mortem* examination was obtained. The surface of the pia mater was thickened in many places, and a small patch of calcification lay on the convex aspect of the left parietal lobe. The basal arteries were normal, but some of their cortical branches were extensively diseased. There were a few spots of superficial cortical softening. Endarteritis was proved by microscopical examination.

The following, a very striking case, was recorded by Dr. Henry Ashby.

3. A male infant was seen at 3 months of age, suffering from coryza and a well-marked rash. A month later multiple syphilitic epiphysitis occurred. When 7 months old he began

* A paper read at St. Thomas's Hospital before the Lambeth Division of the British Medical Association.

to suffer from convulsions. At first these were mostly confined to the left side, but later they became general. In the course of a few months the left arm and leg, which were more or less paralysed, began to draw up and become rigid. Later the right arm became affected in a similar manner. The child gradually became idiotic and finally died. It was under mercurial treatment from 3 months of age. The arachnoid was of a milky colour and there was an excess of subarachnoid fluid. The superficial layer of the grey matter on the convex surface of both hemispheres, especially the right, was softened and could readily be scraped away. The superficial layers of the caudate nucleus and of the optic thalamus were in the same condition of softening. Microscopically the grey matter showed widespread fatty degeneration; the minute arteries were extensively blocked with old thrombi, their inner coats being thickened and their nuclei increased in numbers. The large arteries were normal as far as could be made out. There seemed to have been extensive syphilitic arteritis of the meningo-encephalic arterioles leading to thrombosis and secondary softening of the grey matter.

4. In an infant of 15 months Chiari records the discovery of chronic meningitis, endarteritis, and small foci of cerebral softening.

5. Multiple grey gummata, the size of cherries, were found by Henoch in a child aged 2 years. These lay under the pia mater and also in different parts of the cerebrum and cerebellum.

Can Syphilis Produce Diffuse Cerebral Sclerosis?

It is necessary to inquire whether there is any evidence that syphilis can produce diffuse cerebral sclerosis, since it is a matter of common knowledge that more or less induration is often found in old cases of hemiplegia or diplegia of childhood.

The available evidence goes to show that the inference that this sclerosis is always due to syphilis is quite unwarranted. Those who have investigated the condition have been unable to agree that syphilis plays more than an unimportant part in its production; in other words, the sclerotic condition must, as a general rule, be attributed to other and at present obscure factors.

On the other hand, if we assert that syphilitic infection never produces diffuse sclerosis, we shall be going too far, for there is evidence that such sclerosis may result from syphilis. The induration must be induced either by a diffuse specific encephalitis or be dependent upon diffuse endarteritis of the minute cortical arterioles. In some instances the sclerosis is associated with diffuse leptomeningitis and pachymeningitis, leading to adhesion of these membranes.

Dr. Angel Money recorded the following case:

6. A child was found at 11 months to be suffering from hydrocephalus and a disseminate ocular choroiditis. The father admitted syphilitic infection and presented an extensive abdominal syphilide. Under antisyphilitic treatment the fontanelles duly closed. Sight began to fail at 3½ years. Within six weeks a left hemiplegia with spasticity developed; this was followed, after an interval, by right hemiplegia and loss of speech. The boy died shortly afterwards. The dura mater was adherent and chronically inflamed. The leptomeninges were greatly thickened. Dilatation of the cerebral ventricles and a granular appearance of the ependyma testified to the old hydrocephalus. The right cerebral hemisphere, which was the site of the first paralysing lesion, was shrunken and indurated. Its arteries were grossly diseased. The left hemisphere was hyperaemic and some blood was extravasated on its surface.

Another case was recorded by the late Dr. George Carpenter:

7. The child concerned was the second of the family, the first having been born dead. Snuffles occurred at 1 month, and were soon followed by convulsions, which started in the left arm. At 2½ months the patient was supposed to be blind. When she was examined at 5½ months the head was retracted, the arms rigidly extended, and the knees flexed. A macular syphilide was present, and disseminate choroiditis was detected in the fundi of the eyes. The child was then suffering from bronchopneumonia, and death soon ensued. Sclerosis was found in both cerebral hemispheres, involving the central and frontal convolutions as well as part of the right temporo-sphenoidal lobe. The induration implicated the white as well as the grey matter, and the affected areas were in parts cystic. The cysts contained opalescent fluid, but presented no indications of past haemorrhage, either in the presence of blood or of blood crystals. The arteries at the base of the brain were healthy.

The following instructive case was published by Dr. Abercrombie:

8. At the age of 6, a girl suddenly fell down with a right hemiplegia. She came under observation four years later. No conclusive evidence of syphilis could be obtained, but, the child dying, a *post-mortem* examination was performed. The middle cerebral arteries were diseased. The left cerebral hemisphere was atrophied and its convolutions sclerosed. The ascending frontal and parietal convolutions were most affected. The meninges were thickened and adherent to the brain, more so on the left than on the right. A small adherent thrombus of old standing was found in the superior longitudinal sinus.

The brain is not the only part of the central nervous system which may be damaged by the infection of congenital syphilis. The spinal cord is not immune from the disease. In addition to the system degeneration of juvenile tabes, focal lesions may occur. Specific endarteritis of the spinal arterioles may lead to localized sclerosis or the spinal cord may be compressed by gummata of the meninges or of the periosteum of the spinal canal.

The following case was recorded by Dr. H. D. Singer:[2]

9. A boy of 12 years, who was the subject of congenital syphilis, rapidly developed a paraplegia, the paralysis reaching its acme in two or three days. He died about seven weeks later. The *post-mortem* examination revealed the presence of gummatous meningitis, but, in addition to this, a limited transverse lesion was found in the sixth dorsal segment of the spinal cord. The vessels of the damaged area showed typical syphilitic endarteritis with small-celled infiltration of their perivascular sheaths. The larger vessels, however, were not completely occluded, although some of the capillaries appeared to be. In place of softened patches there was an overgrowth of the perivascular connective tissue; this was especially evident in the posterior columns close to the commissure, the posterior median vessels being surrounded by a greatly thickened coat. The vessels in other regions of the cord were practically healthy. In his remarks on the condition Dr. Singer draws attention to the fact that the cord was sclerosed and not softened. He points out that in cerebral thrombosis the result in the adult is as a rule brain softening, but the effect produced in infants and children is very often sclerosis.

In addition to the lesions already mentioned, an arrest of development of the brain and ganglion cells has been ascribed to the action of the virus of syphilis. On this point I am not in a position to offer any evidence.

Clinical Aspects of the Disease.

For the purpose of inquiry into the clinical aspects assumed by the syphilitic varieties of upper neurone paralysis it will be convenient to consider first the general characters of the antenatal and the post-natal forms.

The Antenatal Form.

Antenatal paralyses, whatever their causation, possess as a group the following characteristics:

The palsy is bilateral and spastic. It is frequently accompanied by athetosis.

Mental weakness and a tendency to convulsive seizures often accompany the disease. Although present at birth the paralysis may escape detection for a few weeks, sometimes even until the period when the child should normally walk and talk.

In addition to spasticity of the limbs, which as a rule is best marked in the legs, there may be some difficulty in swallowing, and squint or nystagmus may be present. The early presence of symptoms such as these may be of material assistance in tracing the lesion right back to the earliest days of life.

The family history of these cases, too, has important characteristics. Contrary to what occurs in the haemorrhagic form of birth palsy, the youngest children of large families are most prone to suffer. When one child of a family is born diplegic the mortality among the other children is considerable, and miscarriages are common.

The birth of a child suffering from antenatal diplegia is apt to be premature, and the labour may be precipitate. If the labour in such a case is difficult the delay is rarely due to mechanical obstruction, but is caused by uterine inertia, the consequence of some abnormal state of the mother. Even where labour is precipitate there may be an asphyxial condition of the child, and considerable difficulty in establishing respiration.

Antenatal diplegia is usually, and no doubt properly, attributed to some condition of ill-health of the pregnant mother. The actual nature of the maternal disease is obscure. Various acute diseases which may have occurred during the period of fetal development, and among these certain of the acute specific fevers, have been looked upon as possible causes. Intrauterine injury may also be a factor.

The possibility that syphilitic infection may be concerned has not been overlooked. In fact, according to Risien Russell syphilis is by far the most important and mos

common maternal disease standing as a causal antecedent. Oppenheim expresses a similar opinion, and quotes several other observers agreeing with it.

This view is borne out by the report that, in France, Delbet obtained a positive Wassermann reaction in 13 cases of this disease. On the other hand, H. R. Dean examined, among other cases, at Potsdam, 15 patients with congenital spastic diplegia, and only obtained one positive result. But on inquiry he informed me that the histories were insufficient for the purpose of determining how many of these paralyses were antenatal and how many due to traumatism at birth.

The following two cases of my own are examples of antenatal diplegia in which syphilis appeared to be the cause:

10. K. A., a female child of 3 years, was brought to the hospital by her mother. There had been fourteen pregnancies. Four children were living, the mother had five times miscarried, and five children had died. A perforation, due to the rapid development of a large gumma, had partly destroyed the mother's hard palate. The child was premature, being born at seven months. The labour was easy. For two years she had snuffles, but no rash was noticed. Although three years old she had never learnt to walk, and had only spoken during the last twelve months. Lately she had begun to use her hands for grasping purposes. She was mentally deficient and diplegic. The legs were quite stiff, the knee-jerks exaggerated, and an extensor plantar response present on each side. The pupils were active, and there was no optic neuritis. The sight of the right eye appeared to be defective. Constipation was a great trouble. The child was treated with grey powder and attended for fourteen weeks, after which she was lost sight of. After several years had elapsed the mother came to the hospital with another infant and, in response to inquiries, said that she had been persuaded to take the child to another hospital. A series of convulsions had occurred, and the child died.

11. R. A., a male aged 3½ years, was sent up from the country for advice as to his condition. He was the firstborn and the birth was natural. There was a history of thrush in infancy, with soreness of the nates and eczema in the groins, armpits, and behind the ears. He was a backward child with spastic diplegia, most marked in the legs, but also present in the arms. The deep reflexes were exaggerated and ankle clonus was present. His head was small, the forehead being narrow; he possessed very little power of speech and was dirty in his habits. In each eye there was evidence of old iritis, which the ophthalmic surgeon who examined him considered very suggestive of syphilis. No gross changes were discovered in the fundi.

In 4 other cases of diplegia which were judged to be examples of antenatal paralysis the cerebro-spinal fluid was examined for me by Dr L. S Dudgeon: the Wassermann reaction was negative, and the fluid free from globulin; no lymphocytes could be detected in it. In two of these patients the blood was also examined for the Wassermann reaction with negative result.

The Post-Natal Form.

The post-natal form of infantile hemiplegia or diplegia is, as a rule, acquired early in life. The first three years are those in which the liability to this type of paralysis is greatest, but the onset has been known to occur later.

Briefly summarized, the clinical characteristics of this group are as follows:

With very few exceptions the onset is sudden and definite, not gradual; this is so constant that it is important to bear in mind that cases of infantile cerebral paralysis in which there is no history of definite onset are likely to be of antenatal origin.

The paralysis is hemiplegic or, much less commonly, diplegic in distribution. It may at first be quite flaccid in type, but soon becomes spastic. Hemianaesthesia, if present, is transient. It is sometimes possible to demonstrate astereognosis in older children. The tendon reflexes are exaggerated on the paralysed side. Often the opposite knee-jerk is unduly brisk at the same time. Ankle clonus is rare, but not unknown; an extensor plantar reflex is the rule. The power of speech may be lost. This occurs, according to Hadden's computation, in about one-fourth of the cases. The loss, as might be expected, is more often associated with right hemiplegia than with left, but this is not invariable. Articulation usually reappears in a few weeks or months. It is remarkable that these patients never show true aphasia in after-life.

There is but little permanent paralysis of the face. The laugh or cry may begin later on the paralysed side, and this side of the mouth open less widely.

The tongue will rarely be found to deviate towards the hemiplegic side in cases of some standing, although it may do so in the earliest stages of the disease.

Convergent squint may occur.

In old cases the arm is found to be affected more than the leg, and the shoulder makes better recovery than the hand. As a sequel to the paralysis, flexor-adductor contracture of the arm and extensor-adductor spasm of the legs are common, but spasticity is not invariable.

Post-hemiplegic perverse movements occur. These mainly affect the upper extremity, and either are deliberate, of the nature of athetosis, or more abrupt, when they are known as post-hemiplegic chorea. The paralysis rarely improves in limbs affected by these movements. The growth of the paralysed side of the body is retarded, and any degree of mental defect may accompany the motor palsy. Nearly all the patients show some mental weakness by the time puberty is reached. Epilepsy supervenes sooner or later in at least one-third of the cases.

The causal factors of this group are diverse. Cerebral haemorrhage and cerebral embolism undoubtedly account for a few cases. The idea is steadily gaining ground that an acute encephalitis (owning as its excitant the same infection as that which causes acute anterior poliomyelitis) is responsible for many more. Cortical venous thrombosis also has its advocates.

But, as with the former group, it is profitable to inquire how far syphilitic brain lesions lie at the bottom of the condition. By most clinical observers the syphilitic variety of the disease is held to be rare. This was the opinion of Henoch, Sir Jonathan Hutchinson, Marie, and Fournier. Professor Osler found but 1 case in 120. Abercrombie described 4, or perhaps 6, in 50 cases. Isolated instances have now and again been reported by other writers. Hadden, in 1891, suggested, on clinical grounds, that the syphilitic variety was more common than was at that time believed. In a series of 40 odd cases, he quotes 2 which were undoubtedly syphilitic, and 12 others in which there was a suspicion of the taint. Of 5 cases of my own, examined by Dr. Dudgeon, only 1 gave a positive reaction. In this case (quoted later) the Wassermann reaction was obtained from the cerebro-spinal fluid, which also contained much globulin and an excess of lymphocytes.

For the recognition of the syphilitic cases which occur in the group of post-natal paralyses attention should in the first place be directed to the family history and previous history of the patient. Next the mode of onset of the paralysis should be investigated carefully, and, in the last place recourse should be had to the various clinical tests of the blood and cerebro-spinal fluid which are now available. It may be possible, as in some of the cases I have already narrated, to recognize in the parents lesions which are unmistakably syphilitic. Too much weight should not be attached to the occurrence of a miscarriage.

In the infant snuffling, soreness of the nates, and unexplained wasting may give rise to suspicion as to the nature of the infection, whilst the detection of syphilitic epiphysitis, iritis, disseminated choroiditis, or interstitial keratitis is of the greatest diagnostic value.

Sometimes a peculiar mode of onset of the paralysis gives the clue to the nature of the case. These suggestive onsets are of several types: One is the development of *a hemiplegia which is preceded for some time by premonitory and recurrent convulsions.* The fact that convulsions are frequent in syphilitic infants and may be succeeded after a longer or shorter time by hemiplegia was pointed out by Sir Thomas Barlow and Dr. Bury. The primary convulsions are epileptiform in nature and may appear simultaneously with or shortly after the development of rash and snuffles. The succeeding hemiplegic attack may occur after an interval of months or even of years. This mode of onset is well illustrated by the following case which was recorded by Hadden:

12. A female child was seen at the age of 9 years. The soft palate was ulcerated and cicatricial; nasal discharge was present and also caries of the nasal bones. A miscarriage had preceded her birth but there was no history of snuffles or rash. She was treated with grey powder. Shortly after the first examination she had several convulsive fits. These occurred at intervals but left no paralysis. Iritis and keratitis developed in the left eye. After further interval of six months she began to complain of headache and suddenly became hemiplegic on the left side. The hemiplegia was spastic with exaggeration of the reflexes. There was no affection of sensation. Memory and intellect slowly failed.

A second characteristic development of symptoms, and one which, according to Rotch, is extremely characteristic of intracranial syphilis, consists of *separate attacks of paralysis which succeed each other at intervals of days or months*, and are not associated with any such obvious cause as a slowly-growing tumour or recurrent embolisms or intracranial tuberculosis.

13. A child of 18 months was brought to my out-patient department with a flaccid paralysis of the right arm. The paralysis had been discovered accidentally, and the arm was blue and cold. The patient had been treated with mercurials for sore bottom, and her birth was preceded by that of a premature infant. The true nature of the paralysis was overlooked, the condition being attributed to acute anterior poliomyelitis. Steady improvement occurred with simple massage and cod-liver oil. Eleven months later she had a series of six fits in the out-patient room. These fits were stronger on the right side, the eyes deviating also in this direction. The true nature of the case was at once suggested by the second attack, and energetic treatment by mercurial inunction and grey powder was instituted. Notwithstanding this a spastic right hemiplegia rapidly developed. The child became unable to walk, and only acquired a vocabulary of a few words. She is now left-handed. Both legs and the right arm are spastic. The knee-jerks are both exaggerated, and an extensor plantar response can be obtained on each side. Well-marked choroiditis has been found. The blood gives a positive Wassermann reaction, as also does the cerebro-spinal fluid. In addition, the latter contains much globulin and an excess of lymphocytes.

Yet a third method of onset is that in which *prodromal headaches and vomiting* occur, just as they do in many cases of syphilitic cerebral thrombosis of the adult. Even here the actual installation of the paralysis is sudden and definite. (An onset of this character may also occur with tuberculous meningitis.)

I should also be inclined to suspect cases in which the *silent development of acute hemiplegia* is the first sign, although fits may occur later.

Hadden recorded the following case:

14. A boy suffered with thrush and snuffles in infancy, but had no rash. There was no history of miscarriages in the mother. At the age of 1 year and 9 months, with no premonitory or accompanying convulsion, a complete right-sided hemiplegia suddenly declared itself. Convulsions followed the paralysis for one or two days. Improvement was gradual. The boy became left-handed, and speech was delayed until he was 2 years old. The fits did not recur. When seen at the age of 10 he was suffering from interstitial keratitis, and showed extensive choroidal atrophy.

But the family and previous history, and also the mode of onset, will often leave us in doubt as to the cause of the paralysis. The hemiplegia in syphilitic cases may arise out of a first convulsive seizure with or without coma, just as occurs in other forms of the post-natal group. Under such circumstances as this the final, and indeed the only means of arriving at an accurate diagnosis is by examination of the blood and of the cerebro-spinal fluid—the blood for the Wassermann reaction, and the cerebro-spinal fluid not only for that reaction, but also for the possible presence of globulin and an excess of lymphocytes.

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THE "X" RAYS IN TREATMENT.*

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WITHIN the last few years the question of "dosage" in the administration of *x* rays for therapeutic purposes has received much consideration. In the appendix to the late Dr. Kassabian's excellent work on electro-therapeutics, published as recently as 1907, the technique of many eminent radiologists is described. In the majority of the descriptions the details give no indications as to the quality of the rays produced or the quantity absorbed by the patient; indeed, the dosage is largely a matter of guesswork based on experience. The following quotation illustrates this point:

> Dosage is determined by a light or dark green fluorescence of the tube. The best time to discontinue treatment is at the appearance of any erythema, taking into consideration the number and duration of exposures.

Now it is true that a certain skill in this guesswork may be gained in time. But I contend that a course of minute doses can be administered in this manner only by one of great experience; even then it is risky; it is unscientific, and happily it is quite unnecessary. To administer the rays in definite measured doses is more troublesome and more expensive; but, when one realizes the extreme potency of the agent and the havoc its injudicious use has already wrought, one must welcome these means of measurement, and use them regardless of either expense or trouble. Already many valuable lives of both medical practitioners and patients have been lost through exposure to the *x* rays; and Dr. Kassabian himself, one of the latest victims, says in his book (ibid., page 407): "The number of operators who have been disfigured, maimed, and injured would form a deplorable list of tremendous proportions."

I do not think that it can be too much insisted on that the administration of the *x* rays, except in carefully measured doses, is absolutely inexcusable.

It is not my intention to discuss minutely the question of "dosage." The problem is very complicated and difficult, and I admit that no one of the methods of measurement at present in use is completely satisfactory. I intend rather to give in detail the application of measurement I have found most simple in the daily routine. Regarding the rays themselves, there are two factors to be considered: (1) The quality of those falling on the part treated, and (2) the quantity absorbed by the tissues. Any system of measurement must necessarily take cognizance of both.

"Hard" and "Soft" Rays.

A beam of *x* rays is composed of radiations of different penetrating powers, just as a beam of ordinary light is composed of rays of different wave length. Rays are described according to their powers of penetration; those of low penetrating power are called "soft," those of high penetrating power are called "hard," while an intermediate degree is spoken of as "medium." The proportion in which "soft," "medium," and "hard" rays are mixed depends on the degree of vacuum of the tube from which they emanate. When the vacuum is low the "soft" rays abound; when the vacuum is high the "hard" are proportionately increased. When it is desired to affect any deep-seated tissue a tube emitting "hard" rays in abundance is selected, while for superficial effects a tube of low vacuum, giving off chiefly soft rays, is used.

Our means of controlling the penetration are: (1) The regulation of the vacuum, and (2) the use of screens.

1. For the first we use a tube having a self-regulating vacuum (such as Müller's heavy anode automatic vacuum regulating tube). It is so set that the vacuum shall not rise above a certain degree, and as the vacuum tends to rise while a tube is in use (provided it is not over-heated) this device keeps it fairly constant.

2. Screens are used to absorb the softer rays—that is, those whose chief effects are on the skin—when the object is to affect deep structures. They may be made of various substances, such as wash-leather and gelatine. I use sheets of aluminium, 1 mm. in thickness, superimposed on one another, the number used depending on the effect desired. Belot, in a recent number of *Archives of the Roentgen Ray*, states that aluminium is the most satisfactory material for screening purposes.

Action on the Tissues.

The administration of a dose of *x* rays is followed by a period of time during which no change is observed in the tissues irradiated. This is known as the *latent period*. The latent period is shorter after large doses than it is after smaller ones.

1. *A small dose* stimulates all epithelial structures; there is increased secretion from the sweat and sebaceous glands, and the hair grows more vigorously. In the course of a few days or longer, these effects gradually pass off, and the part returns to its normal condition.

2. *A full dose* may be followed by a slight erythema after a latent period of ten days or a fortnight; the hair will become pale in colour, and in about three weeks it will drop out, the bulb being temporarily atrophied. The erythema passes off in a few days, the hair roots gradually recover, and in from six to twelve weeks a vigorous growth

* Read before the Glasgow Medico-Chirurgical Society, March 3rd, 1911.

of new hair takes place, and normal conditions again prevail.

3. *A very large dose* is followed in about one week by erythema, which steadily increases in severity. Soon marked inflammatory reaction sets in, and vesication takes place. This is followed by necrosis, which will be deep or superficial according to the quantity of rays absorbed. The ulceration thus produced is very indolent, and in bad cases may last for years. Ultimately it may become epitheliomatous. When healing does at last occur, the resulting scar is white, dense, and unyielding; it is poorly supplied with blood vessels, and is prone to ulcerate again.

4. *Repeated doses* produce results according to whether another dose is or is not administered before the effects of the previous one have passed off. If the doses be such that no distinct inflammatory reaction is produced, and the interval is sufficiently prolonged, a very large number may be administered without producing any very definite organic change. Some increase in fibrous tissue and lessening of epithelial tissues always result. It is probably on this account that the practice of giving a course of *x*-raying after excision of malignant disease is to be recommended.[1]

If the doses are repeated so often that the tissues have not entirely recovered from one when the next is given, a time comes when an inflammatory reaction, more or less violent, results, and thus the rays are said to have a cumulative action.

Chronic radio-dermatitis of operators is the result of small, oft-repeated doses. It occurs chiefly on the backs of the hands. As already mentioned, epithelial growth is thereby stimulated. The result of frequent small stimulations is that the skin becomes hard and dry and warts form. Changes in the blood vessels and capillaries also take place, their walls becoming apparently much thinned. The hands become red and mottled. The only reasonable treatment is absolute protection from the causal agent, and, indeed, from irritation of any kind. Even then the condition improves very slowly. When skin has been rayed to such an extent that it is largely replaced by fibrous tissue, and appears as a dense white scar with telangiectatic vessels over its surface, it should not be rayed again under any circumstances whatever. This is a condition which should not occur. Unfortunately in the earlier days of radio-therapy, when accurate dosage was unknown, excessive raying was common, and this state of the skin was sometimes seen; but with the means of dosage and control now available the risk is very materially lessened.

To Holzknecht is due the credit of first elaborating a system of *x*-ray dosage. Taking advantage of the property which the ray possesses of producing change of colour in certain substances, he has prepared a pastille—the composition of it is unfortunately kept secret—which under the influence of the rays changes from a canary-yellow colour to brown. He has also prepared a graduated scale showing various tints. These shades are numbered from 3 to 24, and this scale is now generally recognized as the standard of *x*-ray dosage. The unit is that amount of raying necessary to change the colour of a pastille from one shade to the next. It is symbolized by Holzknecht's initial H.

Sabouraud, taking advantage of the same property, has invented a somewhat similar method. Instead, however, of employing a scale of colours, a pastille of one colour only is used. This represents the same dose as No. 5 on Holzknecht's scale. The method has these advantages—that it is cheap, and that the composition of the pastille is not kept secret. It has the disadvantage of indicating one dose only, namely, 5 H.

A third method, the one which I employ and recommend for routine work, is the use of a milliampèremeter on the tube circuit, and a meter to count the number of *x*-ray impulses administered at one sitting An impulse is originated each time the current in the primary circuit is interrupted; one has therefore only to count the number of revolutions the interrupter makes during the sitting. This is done by attaching to the spindle of the revolving interrupter a revolution-indicator, such as is commonly used on the wheel of a bicycle to record the distance travelled.

In using this system, the following are the points to which attention must be paid—to secure accuracy all are essential:

1. The *distance* between the anticathode (the point from which the *x* rays emanate) and the part treated.
2. The *penetration* of the rays.
3. The *amount of current* passing through the tube.

1. The distance is determined by the applicators. I find the best working distances are 6 in. and 9 in.; accordingly most of our applicators are made so that the part treated shall be at one or other of these distances from the anticathode. The diameter of the area treated should always be something less than half the "distance" in order that the dose may be evenly distributed over the entire irradiated surface.

2. I have already described how to determine the penetration of the rays and keep it constant. If by any chance the penetration should alter while the dose is being given, this is at once observed by an alteration in the rate at which the current is flowing through the tube; if the penetration increases, the meter shows that less current is passing, if the penetration lessens, the meter indicates an increase in the current.

3. The current passing is indicated on a meter and it is essential that the readings should be correct. Unfortunately there is always a certain amount of the current generated which flows in the wrong direction, with the result that the meter indicates something less than the actual current. To correct this a valve is inserted in the tube circuit which permits the forward current to pass easily but offers a high resistance to the inverse current.

An installation with this method of dose measurement must first be standardized. We must determine how many impulses (under set conditions) are equivalent to 1H. We do so by inserting one of Sabouraud's pastilles and finding out how many impulses are required to reduce it, this number we know is equivalent to 5H, and from that data other doses can be calculated.

For example, if a tube having a penetration represented by 4½ in. spark gap has half a milliampère passing through it, and Sabouraud's pastille (placed at 3 in. distance) is reduced in 5,000 impulses, we know that under these conditions, with an applicator to fix the part at 6 in. distance, 1H. = 1,000, while with an applicator fixing the part at 12 in. distance 1H. = 4,000. In order to calculate the number for any other distance, one has but to remember the law that light diminishes inversely to the square of the distance.

By this method of measurement one is able to vary the dose within wide limits and the personal equation is eliminated. With the other methods one must be able to appreciate very fine shades of difference in colour, and while it is usually easy to do so in good, diffused daylight, in dull weather or sunshine it is very difficult, and in artificial light it is almost impossible to be accurate.

I shall now very briefly name some of the diseases that are more or less amenable to *x*-ray treatment, and I shall suggest what I regard as suitable doses.

1. *Rodent Ulcer.*—A very large percentage of such cases heal under the influence of the *x* rays. It is very important that treatment be continued, not only till all ulceration has healed over, but until all raised edges, however small, have entirely disappeared. Otherwise recurrence will take place almost immediately. The dose should be 6 H. once in three or four weeks, or 2 H. once weekly. Rays of medium penetration should be used and no screen interposed.

2. *Keloid* is another disease which is very amenable to the influence of *x* rays. The dosage is much the same as for rodent ulcer—namely, 6 H. once in five or six weeks. Perhaps my most successful case was one in which a keloid practically disappeared with one dose of 5 H. followed after a month's interval with a second of 3 H. The keloid was raised and red. It was situated on the neck, in the scar left after removal of glands. It was narrow and straight, measuring about 3 in. in length.

3. *Psoriasis.*—When the disease occurs in large, chronic, solitary patches it is usually very favourably influenced by the *x* rays. I have seen a patch on the back of the neck, measuring about 4 in. in diameter, disappear after two doses of 6 H., with an interval of four weeks between them. The rays were of medium penetration (the equivalent spark in air being about 4 in.), and no screens were used.

4. *Lupus Vulgaris.*—This disease is, as a rule, best treated by *x* rays in conjunction with other agents—for example, cauterization, as described by Dr. J. Goodwin

Tomkinson of Glasgow.[1] It may also be used along with Finsen's light treatment or curettage. Great improvement usually follows the first few doses, but spots are left on which the rays seem to have less influence, and continued raying is apt to produce dense scar tissue with telangiectasis. It is difficult to lay down rules as to dosage, but in no case should a single dose exceed 6 H. or 7 H., and if so large, the interval should be three to five weeks. A screen of aluminium 2 mm. in thickness should be used, and the rays should be of medium penetration. Possibly 2 H. once a week for six or eight doses, followed by a rest of some weeks, is suitable in many cases.

5. *Tuberculous glands* at any stage, but particularly in the early stages, usually respond well. The rays should be of high penetration, an aluminium screen of 5 mm. interposed, and a dose of 7 H. to 9 H. administered once in from two to four weeks. As a rule progress is slow.

6. *Exophthalmic Goitre.*—A large percentage of cases improve. It is possible that too small doses aggravate the symptoms, and when we remember the stimulating effect of small doses it is reasonable to suppose that some of the failures which we have had are to be attributed to this cause. The object of the treatment is to cause partial atrophy, and not stimulation of the gland. Rays of medium penetration should be employed, 0.3 mm. aluminium screen inserted, and a dose of 6 H. to 8 H. once in two to four weeks should be given.

7. *Alopecia Areata.*—Excellent results often follow the administration of small doses repeated at long intervals. I use rays of low or medium penetration without screening, and give 1 H. or 2 H. once in two or three weeks.

A child 8 years old lost the hair from the entire head. Occasionally some downy hair would appear only to be again shed. After two years, during which various forms of treatment were used, the head still remained bald. She then began *x*-ray treatment. She received 2 H. once a month for four doses with rays of medium penetration, and by this time—that is, in three months—strong dark hair was growing all over the head. Thereafter, as the child lives a distance from town, and the hair looked healthy, the *x*-ray treatment was stopped, and the mother applied faradic brushing daily. The hair continues to grow healthily, and has been well for a year.

8. *Leukaemia.*—Patients suffering from leukaemia usually benefit. Especially is this so in the more chronic cases, in which the symptomatic improvement, the reduction in size of the spleen, and the change in the blood count, are occasionally very striking. Unfortunately the improvement is not permanent. The rays should be of fairly high penetration, an aluminium screen of 0.5 to 0.8 mm. thickness interposed, and a dose of 6 H. to 8 H. given once every two or three weeks, or a smaller dose may be given more often. Treatment should be applied to the long bones and to the spleen. I usually treat the spleen over three separate areas, and as the above dose may be given to each area a large quantity of rays can be administered in a comparatively short time.

A man, aged 32, came into the Royal Infirmary under the care of Dr. Cowan (to whom I am much indebted for kindly supplying me with these details for publication). He was suffering from great enlargement of spleen and liver. On February 26th the blood count was, white cells 471,000, reds 2,850,000; the haemoglobin was 62 per cent. On June 2nd the journal note is to the effect that there is great improvement in every way. The spleen and liver are much diminished in size. White cells number 34,000, reds 5,200,000, haemoglobin 96 per cent. A few days later, however, there was unfortunately a sudden rise in leucocytes almost as high as on admission (410,000) and some increase in the size of the spleen. He was now dismissed feeling quite well. Some months later the patient reported himself and it was found that he had maintained the symptomatic improvement but the leucocyte count was still high.

Another case was that of a young man, aged 28, who was admitted to the Royal Infirmary in 1907. On October 4th the leucocyte count was 200,000, and by April 17th, the date on which he was dismissed, the leucocyte count was 11,000. This patient was shown before this society some years ago by Dr. W. K. Hunter, under whose care he was, and to whom I am indebted for these details for publication.

9. *Hyperhydrosis.*—This disagreeable trouble can usually be relieved or improved. Rays of medium penetration are used without screening; 5 H. once in four or five weeks for several doses is usually sufficient.

10. *Hairy and pigmented moles*, such as are sometimes seen on the face and neck, can be greatly improved; the hair removed, and the pigmentation lessened. Fairly large doses should be given with rays of medium penetration, and no screen used; 5 H. or 6 H. should be administered once in three to five weeks. Many doses may be required, and care must be taken not to produce a violent reaction. One is, therefore, inclined after the first few applications to reduce the dose.

11. *Naevi.*—Both the flat port-wine stains and the raised cavernous varieties can be vastly improved by raying. It has been stated that marked inflammatory reaction must be produced, but with this I do not agree. I use rays of medium penetration without a screen (perhaps the use of an aluminium screen 0.1 mm. in thickness might be an advantage), and I give 3 H. or 4 H. about once a fortnight. A large number of sittings are required, and as radium gives more excellent results, and is much more easy of application, especially when the patient is a young child, I have largely replaced the use of the *x* rays in cases of naevus by radium.

12. *Deep-seated Malignant Disease.*—Some relief of pain and checking of the rate of growth are all that can be expected. In saying this I do not deny that a number of cases of undoubted cancer (other than rodent ulcer) have disappeared under *x*-ray treatment. One such case—a round-celled sarcoma in the naso-pharynx—I showed before this society some years ago. The percentage of cases, however, in which this happy result is obtained is so very small that I think one cannot say more at present than I have said. In operable cases I am strongly of opinion that a short course of *x* rays should be administered; perhaps before, but certainly always after excision. The risk of recurrence, it is believed, is thereby lessened.

13. *The epilatory property* of the rays is made use of in the treatment of such diseases as ringworm and favus. The object is to give such a dose as shall produce complete temporary epilation, and the greatest care must be taken not to exceed the dose, otherwise permanent baldness may result. The dose is 5 H. with rays of medium penetration (4 to 5-inch equivalent spark gap). No screen is used, and *one dose only* should be required. It cannot be denied that there is a small risk of occasionally producing permanent partial baldness. I therefore think that *x*-ray epilation should only be had recourse to in those cases which resist all other forms of treatment; and I believe there are very few indeed that will not yield to ionic medication with iodine or mercury.

I have by no means exhausted the list of the diseases in which *x*-ray treatment has been found of service. It was not my intention so to do. Perhaps, however, I have said enough to show that the *x* rays have a large field of usefulness in the treatment of disease, and that definite dosage is not only obtainable but absolutely essential to the practice of radio-therapy. The time is past when such phrases as "ten minutes three times a week" or "mild doses daily" are permissible. Like strychnine and arsenic, the *x* rays are safe and useful when properly prescribed and administered; but like them, too, they are capable of doing terrible damage.

REFERENCES.

[1] Sampson Handley, The Prophylaxis of Breast Cancer, *Practitioner*, April, 1910, p. 463. [2] *Proceedings of the Royal Society of Medicine*, April, 1908.

THE arrangements this year for the E.M.I. (Enseignement Médico-mutuel International) include a tour in Scandinavia, starting from Paris on August 12th and returning via Berlin on August 30th. Detailed information can be obtained on application at the offices of the association, 12, Rue François-Millet, Paris. The association has recently been reorganized, its full title now being Association Internationale de Perfectionnement Scientifique et d'Enseignement Médical Complémentaire. Its honorary president and general secretary are Professor Roux and Dr. C. Legendre respectively. A German body of a corresponding kind (the German Central Committee for medical study tours) has also chosen part of Scandinavia for its principal tour this year. The party starts on August 26th, and visiting Christiania, Bergen, and other places in Norway, and several of the German islands, including Borkum, of which so much has recently been heard, remains away three weeks. A party is also to visit the various watering places in the east of Germany in connexion with the International Congress of Thalassotherapy. The general secretary of this committee is Dr. A. Oliven, 134B, Potsdamerstrasse, Berlin.

EXTENSIVE VENOUS INFECTION COMPLICATING MIDDLE-EAR DISEASE: THORACIC EMPYEMA: RECOVERY.

BY

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I THINK the following case of recovery after widespread involvement of the venous channels is worth recording. The internal jugular contained infected clot down to a point a short distance from its termination, and the lateral sinus was thrombosed in nearly its whole extent. The condition of the patient for close on three weeks after the operation, with recurring rigors, looked hopeless. The occurrence of a thoracic empyema on the opposite side of the body is of interest. It is worthy of note that the organism responsible for this condition was the *Bacillus coli*, whereas that obtained from the jugular vein was the *Staphylococcus aureus*. It is difficult to judge the effect of the injections of vaccine; their administration was followed by no very definite signs of improvement. This seems, however, a line of treatment that ought not to be lost sight of.

The patient, a boy aged 13, was admitted to the Croydon General Hospital on May 31st, 1910.

Previous History.

For the last two and a half years the patient had suffered from a very offensive discharge recurring at intervals from the right ear. The parents ascribed the onset of the otorrhoea to a blow on the side of the head, which was followed by some haemorrhage from the ear. As long as there was discharge no pain was complained of, but during the periods of freedom from discharge the patient suffered from pain on the right side of the head. He had been treated from time to time by syringing.

On May 10th (three weeks prior to admission) the ear ceased to discharge. On May 24th, the patient vomited in school and came home complaining of pain on the right side of the head and in the back. These symptoms continued and were succeeded by shivering fits, which commenced on the 26th and recurred at intervals. There was no vomiting on the 28th and 29th. On the 30th a swelling was first noticed on the right side of the neck, and the patient vomited again. The bowels had been opened three times during the last six days. Before admission the case had been regarded as possibly one of typhoid fever. The Widal reaction was negative.

State on Examination.

On admission (May 31st), temperature 100.6°, pulse 120, respirations 32. The patient looked gravely ill. In a short time the temperature had risen to 105, and there was a definite rigor. Tenderness but no swelling was present over the right mastoid process, and there was an indurated tender swelling over the upper part of the course of the internal jugular vein. There were no signs pointing to meningitis or cerebral abscess. The spleen was just palpable. The heart and lungs were healthy.

Mr. Charles Wray kindly examined the eyes and reported as follows:

Ophthalmoscopic examination of the eyes showed the left fundus to be quite normal, but the disc in the right eye was distinctly swollen and the outline very obscure, especially upwards and inwards. No haemorrhages could be seen, and though the veins were distinctly full, the distension in no way suggested an impediment to the flow of venous blood such as one would have expected from the presence of the large clots found on opening the lateral sinus.

Operation.

The case being regarded as one of lateral sinus thrombosis with extension downwards of the infection into the internal jugular vein, that structure was exposed in the usual manner. Owing to the induration, the enlarged glands, and the discoloured condition of the vein, some difficulty was experienced in finding it. When exposed it was seen to be thrombosed. An attempt was made to get below the clot by extending the incision downwards. At a point a short distance above its union with the subclavian the vein looked more healthy, although still thrombosed, and a ligature was applied as low down as possible. About 2½ in. of the lower part of the vein was resected; it contained stinking degenerated clot, but no pus. A swab for bacteriological examination was taken. The incision in the neck was covered with gauze, and the mastoid antrum was laid open. The cortical bone was dense and of more than average thickness. The antrum was of moderate size, and contained foul débris, together with a small quantity of pus. Free exposure of the lateral sinus brought into view a discoloured sloughy-looking wall, and, on this being incised, disintegrated clot was found. There was no fluid pus present. More bone had to be removed in a backward direction, and the incision in the sinus was lengthened. Blood clot was removed nearly as far inwards as the torcular, the last portions appearing healthy. Very free haemorrhage took place at this point, but it was quickly controlled by packing a strip of gauze between the vein and the skull wall. As the patient was showing signs of severe collapse it was necessary to leave the posterior meatal wall and tympanum untouched. The wound was packed with gauze. The incision in the neck was now closed except at the top end, where the internal jugular vein was brought out, and its walls anchored to the skin, and at its lower limit, where a drainage tube was inserted.

After the operation there was great restlessness, pulse 110, temperature 103° F. A pint of normal saline was run into the axilla. This was repeated as necessity arose.

Subsequent History.

For several weeks the patient remained in a very critical condition. The wound in the neck soon showed signs of extensive suppuration accompanied by sloughing; accordingly all the stitches were removed, an open gutter resulting. This, together with the wound in the skull, was frequently flushed out with hydrogen peroxide, and the upper part of the vein was syringed through with the same lotion. The temperature during the first three weeks was of an irregular pyaemic type, ranging from 97° to 104.8° F. There were frequent rigors.

On June 6th a vaccine of the organism (*Staphylococcus aureus*), which was cultivated from the specimen obtained at the operation, was injected. Injections were repeated on the 8th, 10th, and 11th.

On the 7th the patient began to develop a cough, with frothy expectoration, and on the 11th there was a severe fit of coughing, followed by acute pain in the cardiac region, rapid breathing, and collapse. There was no cyanosis. On examination of the chest friction sounds were heard, and were best marked in the region of the apex beat. These distressing symptoms did not last more than a few minutes. On the 12th there was a rigor, and on the 13th and 14th the expectoration, which still continued, was tinged with blood. The chest was again carefully examined, and signs of effusion were discovered on the left side. Clear fluid mixed with flakes of lymph was drawn off with an exploratory needle. The condition of the patient grew worse, and on the 18th a portion of rib below the lower angle of the left scapula was resected under local anaesthesia. About two pints of purulent fluid were slowly allowed to escape, and a large drainage tube was inserted. The patient was given a pint of saline in the axilla. The temperature shortly after the operation dropped from 104.8° to 101.4° F. From the fluid a culture of the *Bacillus coli* was obtained, and the patient was subsequently treated with a vaccine prepared from the organism. The boy from now onwards began slowly to improve, the temperature gradually subsided, and there were no more rigors. At one time the patient complained of pain in the right shoulder, and it was feared that trouble might arise here, but the condition passed off.

By July 6th the temperature was normal, and remained so. The wounds behind the ear and in the neck, which for a long time showed few signs of healing, had now begun to granulate. By August 20th the sinus in the chest was completely closed, the patient had put on weight and felt well. There was still a small granulating area behind the right ear. The ear was dry, and whispered speech was heard at 18 in. The patient has rather a large pad of adenoids, which will be removed subsequently.

My thanks are due to Mr. J. F. Robinson for his valuable help at the operation, and to Mr. R. G. Davidson, the senior house-surgeon, for the great pains and skill which he showed in the after-treatment of the case.

THREE CASES OF MALIGNANT DISEASE OF THE SPINE.

BY THOMAS D. LUKE, M.D., F.R.C.S.,

PEEBLES.

PRIMARY malignant disease of the spinal column is, I believe, by no means a common affection. Of the three cases under consideration, only one was primary. The other two, however, were of interest from the vague character of the symptoms in the first place, and the difficulty in diagnosis until a radiograph was taken in one of the cases.

All were sent for treatment during the past year for a comparatively minor affection which was really a symptom of this grave disease, as the course of the cases proved.

CASE I.

Miss J., a teacher, aged 58, in a good state of nutrition, was sent to me in January, 1910, suffering from supposed sciatica. She hobbled into my consulting room with the aid of two sticks; she could not sit down in the ordinary way, but rather fell or collapsed into a chair when she could no longer support herself by means of the sticks. She had enjoyed good health until about a year and a half previously, when the left breast was removed for malignant disease. She complained of increasing difficulty in walking, of inability to go upstairs or

mount steps, and of the left leg "giving way" underneath her. The pain in the leg was not very considerable, but at night there was a great deal of pain around the waist about the level of the lower dorsal vertebrae, accompanied by a feeling of tightness and absolute inability to turn over in bed without assistance. The patellar reflexes were much exaggerated, especially on the left side, and the Babinski phenomenon was present. There was considerable confusion as regards sense of heat and cold.

The case struck me as pretty plainly one of organic disease—probably a recurrence of the new growth in the spine. A little massage and electrical treatment was tried to satisfy the patient that something was being done, but at the end of the week she was markedly worse, and I suggested the desirability of getting a neurologist's opinion. On the following day I took her to Dr. Edwin Bramwell, who at once confirmed my diagnosis. The patient left for her sister's home in the country at once, and I am indebted to Dr. Bryson of Colinsburgh for the following notes of her case while she was in his hands from early March until May:

"The patient complained chiefly of loss of power in the lumbar and gluteal region. She was unable to raise herself without using her arms when in bed. The pain in the back increased on movement. There was no anaesthesia, and the wasting of leg muscles was limited. But for the history of previous malignant disease the symptoms would have been considered very ambiguous. Later on I detected a tumour in the left lower quadrant of the abdomen, with involvement of the bowel and leading to vomiting, oedema of the legs, ascites and general wasting coming on rapidly."

At this stage the patient was so ill that for the sake of more adequate nursing she was removed to a home in Glasgow, where she died some three weeks later.

CASE II.

Miss H., aged 50, sent to me by Dr. James Wilson, of Edinburgh, in January, 1911, had had the left breast removed some two and a half years previously. She had a very large fibroid of the uterus for some years, which led to extensive bleeding, and was so bad that it was pronounced inoperable by a well-known gynaecologist; but she got over the menopause, and had since suffered no inconvenience from the uterine growth.

She could only walk with the aid of a stick, was very neurasthenic and anaemic, constantly complained of being tired, and often took several days' rest in bed. She was quite unable to walk any distance, but just able to get around the establishment by the aid of a stick, and sometimes her friend's arm. The patellar reflex was very markedly exaggerated, and the plantar reflex was of the Babinski type. A very striking resemblance to the former case was shown in the way in which the patient complained of inability to turn in bed, and also of the severe pain at night. This was relieved, as in Case III, by acetanilid and caffeine, until sleep was permitted. Under treatment the patient's general condition improved considerably, and she was also able to walk latterly without a stick, but the night pain, etc., continued unless palliatives were employed. The patellar reflex remained as brisk as ever, and on her return home a lump was discovered under the clavicle. A spinal radiogram was taken at once, and showed extensive disease of the lower cervical and upper dorsal vertebrae. She died on April 24th.

This case was a good example of the difficulty in diagnosis caused by coexisting neurasthenia and organic nervous disease. One sees the same marked neurasthenia in cases of locomotor ataxia, but in this disease the usual presence of more or less classical symptoms, the history of syphilis, and sex of the patient, renders diagnosis not difficult. But in a patient with a history of almost lifelong ill-health, with uterine trouble, anaemia, and neurasthenia in a very marked degree, with no definite new growth, one could not say with confidence that the spine was involved until a radiogram had shed some light on the matter.

CASE III.

Mrs. D., aged 61, was advised to come for treatment by an Edinburgh surgeon about the middle of October, 1910. She had been in his hands for some bladder inflammation, but was also in a run down condition, with slight neuritis in the left hand and some stiffness in the neck. There was no known previous malignant disease. She had enjoyed fair health until two years back, when she had undergone a series of minor operations for uterine and bladder trouble. The bladder affection was believed to be tuberculous. I first saw her in bed, and her symptoms seemed in no way severe. The thumb and two fingers of the left hand were painful from "neuritis," and she had a stoop when sitting in bed from the stiff neck. I ordered her some treatment suitable to the condition, and almost at once left on holiday. When I returned three weeks later I found the patient absolutely confined to her room, and unable to stand without difficulty, or to sit up in bed more than to a very slight degree. My colleague, Dr. Marshall, had examined the back of the neck, and found a good deal of thickening around the seventh cervical vertebra, and though the thought of a new growth occurred to him, we were disposed to regard it as rheumatoid in nature. The stiffness increased and the pain became more severe, so bad at times as to make the patient cry out with pain. Aspirin relieved her as a rule, and latterly, when that lost its effect, I found acetanilid and caffeine always soothed her and produced sleep. Sitting up caused so much pain and discomfort that I only examined the spine three weeks later, when I found the thickening was rather more diffuse. There was no cachexia or general wasting. The patient was quite unable to turn in bed, and invariably had to lie on her back, as any side movement caused great pain.

The pain was so marked on any attempt to sit up and ran down the arms in such a characteristic fashion that I felt sure there was some rheumatoid disease of the spine causing pressure on the spinal nerves at the point of exit from the canal. Weeks went by, however, and no improvement took place. There was no anaesthesia, but much wasting of the arms and hands, and I felt so concerned as to the poor outlook for the patient that Dr. William Russell saw her with me on January 2nd, and expressed a strong opinion that the condition was malignant. A radiogram, taken by Dr. Edmund Price on January 7th, demonstrated very clearly extensive disease of several of the cervical and two of the upper dorsal vertebrae. The patient grew steadily worse, sinking pretty rapidly at the last and refusing food, owing to severe nausea. Complete paraplegia ensued on the morning of January 17th, and she died at 11.30 a.m. There were no bladder symptoms almost up to the end, excepting the slight frequency from which the patient had long suffered. Dr. Brewis, in whose hands the patient was for gynaecological treatment, informed me there was no question of uterine malignancy.

As in none of the above cases was a *post-mortem* examination possible, the actual nature of the growth cannot be decided. They were all extra-medullary growths, however, involving the bodies of the vertebrae in two cases at any rate, and the symptoms arising were due to pressure on the cord and to disease of the vertebrae not allowing sufficient "grip" for the muscles rotating and bending the back. This must be the explanation of the symptom common to all of them. Neurologists seem agreed that mere exaggeration of the patellar reflex cannot be held to signify any spinal organic disease, but when we get marked exaggeration accompanied by ankle clonus and the Babinski phenomenon attention seems legitimately directed to some grave spinal lesion. If we have severe pain at night running around the intercostal nerves to the front with the inability to turn and a giving way of one or other leg on standing, one would be inclined to suspect spinal new growth. The previous existence of a breast tumour of a malignant character is a great help; where this is absent, as in Case III, then the difficulty of making an accurate diagnosis is undoubtedly very much greater.

SOME CASES UNDER THE WORKMEN'S COMPENSATION ACT, AND OTHERS OF MEDICO-LEGAL INTEREST.

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I HAVE recently been consulted in a considerable number of cases of accidents and alleged accidents, by various insurance companies, and as many of these present points of medico-legal interest, I have collected brief notes of a series of them. The companies are always willing to pay for any genuine accident, and, on the whole, treat the claimants liberally; I do not remember a single instance in which compensation has been refused when I have advised the company that the claim was a just and fair one; but there are certain claims which are obviously unfair, and which they are compelled to contest. In these instances as a rule it is easy to give a perfectly fair and decided opinion, and the reasons for that opinion. But there are some cases, especially those in which there are no objective symptoms, examples of which I quote later, and in which the only complaint is of pain or of inability to use a joint or a muscle without pain, in which the greatest difficulty is experienced in coming to a just conclusion.

In a large number of claims the accident is so patent and clear that no medical opinion is sought at all, and the matter is settled between agent and claimant. But there are others in which differences arise, and in these the company seek the advice of their medical referee. The following examples have all occurred in a series, and are therefore a fair and average sample of the cases on which the companies require a medical opinion.

In many of the cases which come into court such contrary views are expressed by the medical men engaged

that I do not wonder that the judge has great difficulty sometimes in giving his decision. I suppose that as medicine and surgery are not, and cannot be, exact sciences, there will always be this difficulty, but it is a pity that we as a profession cannot get a little nearer in agreement sometimes than we do.

Alleged Sprain of Side Producing very Severe Illness.—A woman employed at a hotel was carrying a pail of water downstairs when in simply turning round without slipping or falling, she suddenly felt a pain in her side. She went on with her work all that day, and for some days after, when she went to bed and saw a doctor. She complained to him of sickness and did not mention any accident. She went home in a few days, and when I saw her five months later she said she was still unable to work on account of the sprain. I found her very ill indeed with abdominal symptoms which I thought were due to serious internal disease, probably malignant. It was proved in evidence that she went about her work for several days after the onset of the pain in her side, that she asked for no medical attendance for about a week, and then only for an attack of sickness, and that she had complained to a fellow worker one week before the accident that she was not well and felt sick. She was so ill in court that she had to give her evidence lying down. Two medical men testified that they considered her symptoms, serious as they were, were due to the strain. On the other hand another medical man and myself were of the opinion that the symptoms complained of had nothing whatever to do with any supposed sprain, and I gave it as my belief that she was suffering from a malignant abdominal growth.

The points against the possibility of any strain accounting for her condition were these: The alleged accident, which was very slight, could not have produced such severe symptoms. In Germany, where accident laws have been much longer in force than in this country, and affect about twenty million people, as compared with about seven million in England, the courts hold that there must be some relation between the severity of the accident and the consequences produced. Another point against strain was that the first symptoms were those of an acute gastric attack, and no complaint of any accident was made. There had been also signs of the onset of her illness a week at least before the strain. Finally, the symptoms of a strain come on suddenly and immediately after the accident, which was not the case here. The judge gave the case against the appellant, remarking that the evidence of her medical witnesses had strained his reasoning powers to the breaking point.

Suppurating Glands following an Injury.—A man employed in a laundry complained that a basket had slipped and struck him in the groin. No wound or abrasion was caused, but a few days later a swelling formed in the groin which subsequently suppurated. I gave it as my opinion (which was supported by another medical man) that this was not a possible occurrence. I do not think that a blow on a gland, without any breach of surface, can cause suppuration. There was probably in this case some focus of infection in the area drained by the glands. The man lost his case.

Claims of enlargement of glands due to accident are not uncommon, but it is very doubtful if this ever happens unless the tissues from which the lymph is derived have been infected at the time of the accident or subsequently. Enlarged glands already existing may, of course, be made worse by a blow or other injury.

Traumatic Lumbago.—A stockbroker slipped and sprained his back. He was very nearly well, on his own statement, when I saw him a few weeks after the accident, and there was no difficulty in arranging for his return to his usual occupation.

I mention this example only to point out that as pain in the back is such a common complaint after an accident, it is well to know what is the duration of pain and disability in such a case. Mr. Tubby, in Knocker's *Accidents in their Medico-Legal Aspect*, says:

> The strain, sprain, or rupture of a muscle is one of the easiest things to allege and one of the hardest things to disprove. Pain in the back has become a byword among workmen, who are fully aware that "if you say you have got a pain in your back, nobody can't say you haven't got it."

The duration of cure in a sprained muscle should not exceed fourteen to twenty-eight days. An extra week for complete recovery is all the further period of rest that need be allowed. If four or five weeks after a sprain a man still complains of pain in his back you should be very suspicious of malingering. I may mention that in many cases—for example, Wells *v.* Cardiff Steam Coal Collieries, Holt *v.* Yates and Thom—very much longer periods than I have given have been allowed for disablement from strain of the muscles of the back.

Injury to Leg in a Pregnant Woman: Alleged Death of Fetus.—A young woman slipped through a hole in a faulty stair, and cut her leg. After a short time this healed, but she declared she was still unable to work. When I examined her I found that the pain complained of was quite away from the recently healed wound, and was due to old varicose veins. She was pregnant at the time of the accident. After two months she still asserted she was unable to perform her duties as a waitress, and that the accident had killed the fetus. On examination, the uterus was of the right size for a three months pregnancy, and there were no other signs whatever of anything wrong with the normal course. It was suggested that the embryo had been killed at the time of the accident, when the woman was one month pregnant, and that the size of the uterus was due to blood clot. But against this was (1) the improbability of the retention in the uterus of a dead fetus, (2) the unlikelihood of the size of the womb just corresponding with the proper size according to the date of the pregnancy at my examination, (3) the absence of the other signs of a dead fetus, such as diminution of the size of the breast.

Slight Bruising of the Leg followed by Asserted Prolonged Inability to Work.—A woman was struck on the thigh by a long pole when passing a draper's shop. The accident was quite trifling, but nearly six months later she still claimed that she was unable to work. When I made my visit, which was quite unexpected, I saw the woman actively working about the house; but evidently she did not suspect that I had seen her, for, after keeping me waiting some little while, she came in with apologies: "She had only just got up; had been trying to rest her leg." She showed me the "bruise" remaining after five months. There were simply a few cutaneous varicose veins, which were equally marked on the other thigh.

Fracture into Elbow-joint.—A man fell from a ladder and fractured his elbow-joint. I saw him a few weeks after, and there was then an open wound at the back of the joint, the result of an operation. Here there was no question that the man was and would be for some time unfit for work.

The only point worth remembering in connexion with a case of this nature is that with a perfectly stiff elbow a man is able to perform a number of complicated movements and carry on many occupations. There is no large joint in the body which can be so well spared as the elbow.

Injury to Shoulder.—An adult male, whilst cleaning out a kennel, injured his shoulder. Five months after he stated he was incapable of doing any work. All that I could find was that he complained of a good deal of pain on any attempt to move his shoulder. When his attention was distracted from his arm movements were much more readily allowed. I could see no reason why after all this time he should not return to work; but a strong point in the man's favour was that he was undergoing treatment at the hospital, which included such painful procedures as the use of the actual cautery. There was an element of doubt in this case, and I advised the company to settle with him, and they gave him £30.

This is one of the cases in which the detection of a malingerer is difficult. The usual time of incapacity from a sprained shoulder is only three weeks, and if this man could have been put under an anaesthetic and no stiffness of the joint then detected, I should not, in the absence of all physical signs—such as swelling, wasting, etc.—have hesitated to advise the company to refuse to pay any longer. But this course could not be insisted upon.

Injury to Thumb: Alleged Prolonged Incapacity.—A domestic servant cut her thumb with a knife; this was followed by suppuration and necrosis of the bone, ending in the loss of the top half of the terminal portion of the thumb. This entailed practically no disability, certainly as regards domestic service; she asserted that she had severe pain in the arm, and that she was unable to use it. I could find no evidence of neuritis, and was able to prove that she had free and full use of the arm, by getting her to move it in all directions, by making her write her name, etc., and the judge held that she had been properly compensated by the payment of half wages for some time and then a lump sum of £25.

This woman had in court a certificate from a medical man which stated that the left arm was disabled and would remain so for life. In a German case, where, after the loss of the last phalanx of the thumb there appeared hysterical disturbance of the arm and shoulder, the following passage appeared in the judgement:

> It was not the influence of the accident which essentially caused the trouble, but the brooding of the plaintiff over the presence of its results, and his endeavours to make them a reason for indemnity which would pay him.

In the *Practitioner*, 1909, Dr. Mackenzie published a very excellent paper which puts the percentage of loss of various parts of the hand in the form of a table; it is a useful guide in estimating disability.

Crushed Hand: Question of Unreasonable Refusal to have Operation Performed.—A man crushed his left hand severely, with the result that some time later he was left with a per-

fectly useless ring finger and a good deal of scar tissue limiting the movements of the third and fifth fingers. It was held by the employer that if the useless finger were amputated he would have a much more useful hand, and would be able to resume his old occupation of driving. In my evidence I said that undoubtedly the removal of the stiff and useless finger would give him a better hand, though of course it would not make it a normal one. Evidence was given for the appellant by two medical men to the effect that the result of an operation for the removal of the finger and the breaking down of adhesions was very problematical, and it was shown that his own doctor had never very forcibly urged him to submit to operation. The judge on a point like this has not to decide on the balance of medical evidence brought before him, but simply whether the man's refusal was reasonable or the contrary.

His Honour took the view that if a man's own medical attendant had not pressed the operation on him, he was not bound to listen to any opinions that might be expressed by other doctors. The Master of the Rolls in Tutton *v.* Owners of ss. *Majestic* made this point quite clear:

I think the the test is, not whether on the balance of medical opinion the operation might reasonably be performed, but whether the man in refusing to undergo the operation acted unreasonably. I altogether decline to say that in a case of an operation of this kind a man can be said to act unreasonably in following the advice of a competent doctor, even though on the balance of medical evidence given at a subsequent date the county court judge might come to the conclusion that the operation was in its nature one which might reasonably and properly be performed.

Crushed Hand: Question of Return to Work.—A young girl crushed her hand at a laundry, and many months after was still away from work. I saw the girl apart from her mother, and found she was quite able to work again. I also discovered that the agent was paying her by mistake sixpence a week more than she was earning in full wages. There was no difficulty in getting this girl back to work.

It is very useful to examine young claimants apart from their parents, as they are much more likely to be natural and not to exaggerate their symptoms.

Serious Injury to Head followed by Prolonged Incapacity.—A road sweeper was struck down by a runaway horse, and sustained a severe injury to his head. He became paralysed on the same side as the scalp wound, and there was almost complete inability to talk or reason about things. Two years later, when I first saw him, this condition had greatly improved. Paralysis was almost gone, and reasoning powers were good. I thought that probably the man would get quite well, although it might be some considerable time before he was fit for work. I based this opinion on the fact that he had improved so much in the few months before I saw him. I had to decide if he was perfectly capable of making an agreement with the company for compensation, and I had no hesitation in saying that he could do so. I asked him if he would sign a document. "Not till I know its contents," he replied. I thought this was a good evidence of his ability to discuss the details of a settlement.

Alleged Traumatic Hernia.—A middle-aged man was engaged in unloading coal from a railway truck, when the side of the truck was said to have suddenly fallen outwards. In order to avoid being struck, the man sprang to one side, and he asserted that from that moment the rupture made its appearance. I examined him some months afterwards, and all that I was able to detect was the scar of an operation wound in the inguinal region. He had been operated on for an inguinal hernia, but the scar gave no guidance as to whether it was recent and traumatic or an old chronic inguinal rupture. But strongly against the traumatic view was the fact that the man had continued work for some time after the alleged accident. I do not think any one who had had such a severe strain as to produce a rupture could have continued his work; the pain would have been so great that he would have been compelled to stop at once. However, his account of the supposed accident was so unsatisfactory that the judge, without hearing any medical evidence, at once decided that there had been no accident at all.

If a case of rupture can be seen at once or soon after the alleged accident, there are certain guiding points to help one in forming an opinion as to whether it has been caused by this accident or no. It should always be remembered that, though a hernia is very rarely caused by a strain, the accident does occasionally occur, and the following points will help in coming to a decision: In an old rupture the skin may be discoloured by the friction of a truss, or the hair worn away where it has pressed. If the rupture is large, it is probably, but not certainly, old. If the sac is a thick-walled one, it is old, not recent. If there is adherent omentum in the sac, it indicates a hernia of long standing. A recent hernia resulting from injury is accompanied by pain, usually severe, from laceration of the structures of the abdominal wall. In an old inguinal hernia the ring is larger, its edges thickened, and the two rings, internal and external, brought closer together. If the rupture is either in whole or part irreducible, it is certainly old. Strangulation may occur at the moment of protrusion; therefore, though more common in old than in recent ruptures, its presence does not prove it to be old.

The late Mr. Barnard, in Knocker's work already referred to, made the following very pertinent remarks:

Rupture is exceedingly common. The layman has no idea how common or how much daily laborious work is performed by working men with ruptures. . . . There is probably more fraud connected with claims for rupture produced by an accident than can be found in all the other cases of fraud for the rest of the body. Of the cases that claim compensation for damages for hernia as being caused by a *sudden* strain probably not one in ten is genuine.

In the final report of the Departmental Committee on Compensation for Industrial Diseases in connexion with the Workmen's Compensation Act, 1906, the following passage occurs:

The evidence which we have received from authorities of eminence is definitely to the effect that hernia may, though very rarely, be due to a sudden strain, in which case it would be the subject of compensation, if caused by the employment, as an accident. But what usually happens is that some cough or particular strain brings down a little further a hernia which has been slowly developing, so as first to make it prominent and attract attention.

Alleged Traumatic Hernia.—A young man slipped whilst carrying a sack of corn, and stated that this immediately caused a rupture of which there had been no sign previously. He continued his work, wearing a truss, and three months afterwards was operated on. Two months later, when I first saw him, there was present a recent scar of the radical cure of inguinal hernia. It was, of course, impossible for me to say whether this rupture was a traumatic one or no, for there was so little to guide me. But the fact that he was able to go straight on with his work after the accident was a strong point against it being due to an accident. The point I was asked to determine in this man was when he could return to his full work. The ordinary period at which, after a radical cure, it is quite safe for a man to return to full laborious work is three months, but as this man's occupation entailed very heavy lifting, including sacks weighing up to 2 cwt., I advised an extra six weeks, making four and a half months in all.

An interesting point arose in this case. Both workman and employer had signed an agreement as to the amount of compensation to be paid; but under a section of the Workmen's Compensation Act all agreements between employer and employed have to be submitted to the registrar of the court for approval. He refused to register this case on the ground that the amount agreed upon was not a fair one. This action has still to come before the judge for his opinion.

Alleged Food Poisoning.—This case, though not under the Workmen's Compensation Act, has points of medico-legal interest, and I have therefore added it to the series. A man, 51 years of age, was examined by me some ten weeks after the alleged poisoning. The account of the event he gave me was as follows: He purchased a small tin of potted ham and chicken at a grocer's, which was opened for him in the shop and eaten by himself and four members of his family almost immediately after, at 5 p.m. on a Thursday. A dog also partook of the potted meat, but two other people who had tea with them did not. The meat presented nothing wrong to the senses. About two hours after the meal his wife felt sick, and in the night came out in a thick, irritating rash. Next morning he himself came out in a similar rash, but he had no other symptoms, no diarrhoea or vomiting or abdominal pain. Two children showed nothing wrong till two days later, when they had a similar eruption; and a few days later still the fifth victim, an adult, came out in the same rash. The dog also showed similar symptoms. (It was shown in evidence that the two visitors who did not touch the meat had no symptoms.) The man did not seek treatment till the morning of the second day after the meal, when he saw a chemist, and in the evening of that day a doctor. It was shown that on the Saturday, the second day after eating the potted meat, he had purchased some eels which were not fresh, and it was suggested that this was the cause of the attacks, the man purposely altering the time of the appearance of the rash in order to get damages from the vendor of the tinned meat. After hearing the evidence at the trial, I think that there can be no doubt that the symptoms appeared before the purchase of the eels, and that these had nothing whatever to do with the case.

I came to the conclusion, however, that the family were not suffering from tinned meat poisoning, and for these reasons: The essential and characteristic symptoms of potted meat poisoning were all absent—namely, vomiting, diarrhoea, severe abdominal pain, and collapse. In this form of poisoning a rash is not often present, and if it is it does not dominate the attack as it did here. Even if the man himself were an unusual example, it is almost impossible to imagine that all the five victims

should be anomalous cases presenting none of the symptoms characteristic of the condition. Five improbabilities are equivalent to an impossibility. The symptoms were very much more like fish poisoning, in which a sudden urticarial eruption is the predominant feature. Secondly, if tinned meat does set up poisoning it is a toxaemia and not a bacterial poisoning; the bacteria are destroyed by the steam, etc., used in the process of potting. The latent period, therefore, is a very short one reckoned in hours. The evidence showed that some of the cases at least did not show any signs for thirty-six hours, possibly longer. The long time at first mentioned by the man before the symptoms appeared in the fifth case was, as the evidence showed, a mistake. The judge, after giving a most careful summary of the evidence, clearly leaned to the view that neither the eels nor the potted meat had anything to do with the attacks, but that probably something eaten by the five victims either earlier or later in the day was the cause. These five, with no visitors, had their other meals together. The jury took this view and found for the defendant. What I heard afterwards confirmed my view of fish poisoning. The family were in the habit, I was informed, of frequently partaking of fried fish, and it is probable, or at least possible, that this was the *fons et origo* of the whole affair.

RADIUM WATER THERAPY.

BY

WILLIAM ARMSTRONG, M.R.C.S.ENG.,

BUXTON.

IT is generally agreed that the effects of those natural mineral waters which from the small amount of contained mineral matter have been classed as "Indifferent-thermal" are due to their radio-activity—that is, the amount of radium emanation contained in them. The degree of radio-activity is, however, so small as to be difficult of estimation. Professor Maché of Vienna, however, has devised a unit, called by his name, which is the one-thousandth part of an ordinary electro-static unit; this has much facilitated the accurate estimation of radio-activity in waters of low strength. The amount of radio-activity present in the various natural waters varies from 2 maché units to 150 maché units per litre, the highest reading being given by the Gastein water.

In 1903 Saubermann of Berlin, a practising physician and one of the earliest radium investigators, suggested the use of water containing a much larger quantity of radium emanation as an adjunct to the various natural waters.

In 1905 Gottlieb of Jacomsthal, where the great Austrian radium mine is situated, found marked medical results amongst the miners who merely worked in and about the water from the pitchblende, and still more remarkable ones when in addition the water was drank. Dautwitz, working in Neussen's clinic, added pitchblende to existing indifferent thermal waters, with much enhanced results. Since then continuous success has been reported by Deutelmoser, Newburg, Bergel, Beckel, Gudzent, and many others. The results were as follows:

1. Greatly increased diuresis and excretion of uric acid.
2. Largely increased carbonic acid exhalation (Silbergleit and others).
3. Lowered blood pressure (Deutelmoser).
4. Decreased blood viscosity (Deutelmoser).
5. Increased activity peptonizing and diastatic ferments (Bergel and Bickel).
6. Enhanced autolysis (Newburg).
7. Prevention of the transformation of the easily soluble lactam urate (mono-natrium-urate) into the less soluble lactim-urate (Gudzent).
8. Marked solvent action on gouty deposits.
9. Excretion of uric acid took place as promptly in gouty patients as in healthy individuals, overcoming the special difficulties of the gouty, namely:
   (*a*) Retardation of purin body metabolism.
   (*b*) The slowing of the formation and of the breaking down of uric acid.
   (*c*) The alteration in the mutual relation of the two processes (His).
10. The dissociation of uric acid and its salts into carbon dioxide and ammonia.
11. Inhibition of inflammation and relief of pains in rheumatism His).
12. Increase of sexual vitality (Gastein has always had this reputation).
13. Considerable influence over sympathetic nerve affections, such as neurasthenia and allied conditions (Saubermann).
14. Marked results in diabetes, albuminuria, and glycosuria (Saubermann and others).

The investigation, covering 10,000 observations, of Dr. Harburn and myself, published in the *Lancet* some eight years ago, showed that the action of the Buxton Thermal waters was almost entirely due to contained gases; and finding that good and definite results were obtained from so low a percentage of radium emanation as it contains, I thought it would be interesting to give a trial to a much stronger radio-active water.

In June, 1910, I began to use a strong radio active water in the class of cases successfully dealt with in Germany. The maximum strength provided was 8,000 maché units per litre, and I am now able to offer an analysis of the results in 400 cases. For drinking purposes, the water was prescribed in daily quantities of from ½ litre to 1 litre, divided into two or three doses. The strength given was from 1,000 to 8,000 units, according to the class of case treated. For bathing, the strength of the water was from 5 to 15 units per litre, and for inhalation 1,000 to 8,000 units. Packs of radio-active earth to inflamed and thickened joints were also used.

The general physical results observed were as follows:

1. Greatly increased diuresis.
   (*a*) Average increase of volume 25 per cent.
   (*b*) Average increase of excretion of uric acid 15 per cent.
2. Increase of exhalation of carbonic acid gas from 20 to 60 per cent.
3. Marked lowering of blood pressure, especially in arterio-sclerosis.
4. Improvement of digestion, both gastric and duodenal.
5. Disappearance of gouty deposits.
6. Considerable increase in vitality, both general and sexual.
7. Regulation of action of bowels, probably due to increased peristaltic action, but no actual purgative effect.
8. Great improvement in appearance, clearness of skin, brightness of eyes, etc.

The cases treated comprised the following diseases: Diabetes, glycosuria, albuminuria, arterio-sclerosis, gout, rheumatism, arthritis, neuritis, neurasthenia and general loss of vitality, autointoxication; sympathetic nerve and vasomotor troubles, such as angio-neurosis.

The special results observed were:

In *Diabetes:* Decrease of sugar. Increase of body weight, oxidation, carbonic acid exhalation, and great improvement in general health.

In *Glycosuria:* Rapid decrease and eventually almost always the complete disappearance of sugar.

In *Albuminuria:* Decrease of albumen and blood pressure. Increased excretion of body toxins by kidney and lungs. Decided improvement in general health.

In *Arterio-sclerosis:* Marked decrease of blood pressure from 20 to 80 mm.

In *Gout:* Increase of volume of urine and of uric acid excretion. Disappearance of uric acid crystals in urine, rapid decrease of pain, stiffness, and swelling of affected parts.

In *Rheumatism:* Decrease of pain and stiffness.

In *Neuritis:* Diminution of pain. Great improvement in nerve health generally.

In *Arthritis:* Improvement in nearly all forms; in recent non-acute cases very rapid changes were observed.

In *Neurasthenia* with autointoxication and loss of vitality: These cases improved with extraordinary rapidity and completeness. Marked change in appearance and vitality. Considerable increase in carbonic acid exhaled. The cases in this group were most satisfactory of all.

Diminution of Sexual Vitality.—Some dozen cases treated especially for this, all with good results; in a number of other cases information regarding this improvement was volunteered.

Sympathetic Nerve Affections, especially vasomotor troubles, such as angio-neurosis, made very satisfactory progress.

I quote briefly two representative cases:

CASE I.

E. J., aged 60 years. Sugar in urine continuously for three years, failing heart, much oedema of legs, great loss of flesh, want of mental clearness, drowsiness, marked autointoxication. Face very dusky, almost blue. So ill had to be brought in invalid carriage. Urine twenty-four hours, 80 oz.; specific gravity 1042, sugar 8 per cent., much acetone. June 14th, 1910. Drank radio-active water, 2,000 maché units, ½ litre twice daily, increased to 4,000 maché units on 21st, and to 8,000 maché units on 30th. July 4th. Radium water increased to ½ litre twice daily. Steady and continuous improvement. Left August 10th; oedema disappeared; urine 56 oz., specific gravity 1025, sugar 2 per cent., lost blue colour, able to walk two miles daily.

Returned October 2nd; gained 11 lb. in weight since August 9th. Urine 58 oz., sugar 2.8 per cent. Much better in every

way. Drank radio-active water as before. Left November 5th. Urine 54 oz., sugar under 1 per cent., specific gravity 1023. Examination, night and morning specimens, showed morning specimen free from sugar.

December 3rd. Returned very well; could walk five or six miles daily, weight increasing, colour quite healthy. Urine 48 oz., specific gravity 1023, sugar mere trace in evening specimen only; drank radium water till end of January, and left free from sugar.

CASE II.

T. W., aged 54 years; seen October 20th, 1910. Bright's disease for at least five years. Urine 64 oz., specific gravity 1006, albumen $\frac{1}{12}$, hyaline casts. Looks very thin and wretchedly ill, frequent vomiting. tension 230 mm. Radium water ½ litre twice daily, 1,000 maché units, increased every two days by 1,000 till 8,000 was reached. After two weeks the dose was increased to ½ litre twice daily. Steady improvement took place, appearance and colour improved, vomiting ceased; the patient expressed himself as feeling much better. Considerable increase in carbonic acid exhalation, and in total nitrogen in urine. Albumen went down to one-half. Tension gradually fell to 160 mm. at the end of six weeks' treatment.

Returned January 24th, 1911. Improvement not quite maintained, but much better than in October. Slight increase in albumen; carbonic acid exhalation decreased. Increase in blood tension to 180 mm. Occasional vomiting. Radium water as before. Now (February 27th) tension 155 mm. Much better in every way.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A SALIVARY REACTION IN DIABETES MELLITUS.

ON adding a dilute solution of ferric chloride to the saliva of a healthy person one finds a blood-red coloration produced, due to the presence of potassium sulpho-cyanate (KCNS).

When examining persons suffering from lead poisoning in whom the reaction is wanting, I found on using my own saliva as control that if I had been eating anything sweet, such as jam, the reaction was negative in my case also.

Experimentation in the laboratory has confirmed the fact that both lead salts and sugar interfere with the red reaction, the most probable explanation being that the ferric chloride is reduced to a ferrous salt.

If the temporary presence of sugar interfered with the reaction, one naturally thought it possible that the permanent presence of sugar in the system might also prevent the formation of the blood-red colour. With that object I determined to test the salivas of diabetic patients, and in every case I have found the reaction negative provided the test was carefully carried out.

The solution of ferric chloride must be very weak (about 6 to 8 drops of liq. ferri perchlor. to 4 oz. of water), otherwise there is present a certain amount of ferric chloride unreduced which is sufficient to produce the reaction.

Swansea. G. ARBOUR STEPHENS, M.D.Lond.

GASTRO-INTESTINAL HAEMORRHAGE IN A NEWBORN INFANT.

ON consulting the recent edition of Allbutt's *System of Medicine* I find that "the haemorrhagic disease of newborn children" is spoken of as being "a very rare one." I believe, therefore, that the following short report of a case which I met with recently in private practice will be of some interest.

The child's parents are healthy, and there is no family history of haemophilia. The mother, aged 40, has four healthy children. She had one miscarriage—the pregnancy immediately preceding this one, but apart from this, there is no evidence whatever of syphilis. Her previous labours were normal and easy. On this occasion rupture of the membranes took place at the commencement of labour, and there was also considerable uterine inertia, so that the os was not fully dilated till twenty-four hours afterwards when the child was born without interference. It was an apparently healthy, well-nourished, female child of 7½ lb. weight. Twenty-four hours after birth the child vomited bright red blood, and passed by the bowel considerable quantities of dark red clots. There was no jaundice, neither was there evidence of colicky pain or pain of any kind. There was no abnormal crying, and the abdominal wall was quite soft and relaxed. The abdomen, in fact, appeared to be exceptionally flaccid, for an examination of the bowels with one finger in the rectum was easily made without an anaesthetic. No tumour or abnormality could be detected. The child took the breast once or twice after these symptoms had started and had occasional intervals of normal sleep, waking up to repeatedly vomit small quantities of bright red blood. The passage by the bowel of very dark red, though not absolutely black, blood also took place every two or three hours, and the child became gradually colder, more pallid, feeble, and pulseless. It died thirty-six hours after the onset of symptoms, death being evidently due to nothing but the severe haemorrhage.

The vomiting of blood in these cases is, I understand, extremely rare. The symptoms, too, would point to two sites of bleeding, one in the stomach and one in the lower part of the bowel. It was impossible to obtain a *post-mortem* examination.

Kingskettle, Fife. ARTHUR MILLS, M.B., Ch.B.

DIPHTHERIA ANTITOXIN BY THE MOUTH.

MY partner (Dr. Annie Jackson) and I have been giving antitoxin by the mouth, exclusively, for two years and a half. And in that time we have only lost two cases.

We find that the improvement sets in within six hours. The child suffers no shock. We give the serum after taking the first swab.

Derby. HELEN M. GREENE, M.D., L.S.A.

NASTIN IN LEPROSY.

I HAVE great pleasure in reporting a case of anaesthetic leprosy which has improved a great deal under nastin treatment. The patient had noticed patches on the cheek, lips, and back thirteen years ago without suspecting it to be leprosy. The hands had lost sensation, and were wasted, having assumed the peculiar leprous character. The patient's fingers constantly got hurt, and it was to get one of these hurts dressed that the patient came under observation. The patches when noticed were distinctly anaesthetic, with raised and red margins.

The patient was given twelve injections of nastin B0 and twelve of B1, one every week. The margins of the patches after this treatment have altogether disappeared, and the sensation has returned. The patches have faded away; the general health of the patient has greatly improved.

S. G. RANADAY, L.M.and S Bombay, L.R.C.P.S., D.P.H.Edin., D.T.M.Lond.

Thakurdwar, Girgaon.

NUTMEG POISONING.

ON Thursday, March 9th, at 2 p.m. a woman, aged 23, was brought into hospital complaining of severe occipital headache, vertigo, and abdominal pain. She was admitted under Dr. Saundby, to whom I am indebted for permission to publish the case.

State on Admission.—She was restless and excited, complaining constantly of her head. She also had abdominal pain and vertigo. She could not answer any questions then. Her face was slightly flushed, pupils normal, pulse 120. Her abdomen was rather tender, especially over the descending colon, but there was no rigidity. The abdominal pain and headache finally disappeared on the next (Friday) afternoon, but she was very giddy on getting up then.

Her story as then given was as follows: On Thursday morning at seven o'clock she drank one nutmeg ground up in a glass of stout. About four hours later she became so giddy that she went to bed.

About the time she first became giddy an intense headache came on, and abdominal pain, as she said, "Like the wind." Her eyes then became dim, and she remembered nothing more, except the headache, until she found herself in hospital.

The nutmeg was taken as an abortifacient, but had no effect as such.

In the 6 most recently reported cases that I can find the symptoms were much the same as in the above case. In none of them did the drug act as an abortifacient.

K. DOUGLAS WILKINSON, M.B.Birm.

The General Hospital, Birmingham.

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SALVARSAN IN SYPHILIS.

FINDING that various opinions are expressed about the efficacy of "606" in syphilis, I would like to note two cases that I have treated with "606."

1. N. N., Portuguese, aged 34, acquired a primary lesion in 1906. He had no secondary eruptions, and enjoyed fairly good health till the beginning of December, 1910, when he was covered with ulcers with raised, thick, greenish-black, and adherent crusts; the lymphatic glands, such as the epitrochlear, the post-cervical regions, and the one lying in front of the internal condyle of the humerus, were enlarged. Smears taken from these sores have demonstrated the existence of *Spirochaeta pallida*. I at once gave him an injection of 0.5 gram of "606." All the symptoms disappeared in ten days, and the man is actually at work.

2. N. N., a Britisher, aged 38, contracted the primary sore about sixteen years ago; a few weeks elapsed, and a slight syphilitic roseola appeared. He consulted a medical man, and, having been placed under mercurial treatment, the eruptions soon disappeared. He was under treatment for about twelve months. In 1908 he contracted choroiditis, characterized by yellowish-white plaques and dissemination of numerous round and oval spots in the fundus oculi; but after having consulted an oculist and submitted to mercurial treatment he felt well. He was enjoying very good health till December 15th, when he consulted me complaining of oliguria. The specific gravity of the urine was 1032, the amount 29 oz., reaction acid, and sugar (CuO). I examined the blood, and found a diminution in the haemoglobin percentage and red corpuscles, with slight leucocytosis. I placed the patient on a diabetic diet and treatment with no result. I then suspected him to be suffering from syphilitic glycosuria, and I asked him whether he had ever contracted a chancre, and after some pressing he admitted as above. I at once gave him 0.5 gram of "606," and in forty-eight hours the glycosuria disappeared. No *Spirochaeta pallida* could be found in the blood taken from enlarged glands, whereas before the infection they were easily found in the blood from the glands. The man is well and complains of nothing.

I sincerely believe that "606" has a curative power over *Plasmodium* malaria, as Case 1 used to be laid up with malaria twice a week, but since the infection he admits feeling perfectly well.

Naples. CIARAMELLI ANTHONY, M.D.

ANALGESIA IN LABOUR.

THE results attending the use of a combination of heroin and atropin in the ordinary pains of labour have in my hands been very satisfactory. I have tried scopolamine-morphine without anything like the same result. The treatment is simple, and, so far as my experience goes, absolutely safe. It is suitable for any stage of labour. The effect is immediate and yet durable. It does not interfere with the use of chloroform in delivery, and does not hinder the action of the voluntary muscles. I have not found it diminish the contractile pains, and it does certainly greatly diminish the painfulness of labour.

Heroin hydrochlorate $\frac{1}{12}$ grain with atropin sulphate $\frac{1}{100}$ grain may be given hypodermically in one dose, or, according to the stage of labour, in divided doses.

Those patients on whom this treatment has been used have testified strongly and without solicitation to the relief which it affords.

Palmerston North, New Zealand. W. C. GREIG, M.D.

TRAUMATIC ANEURYSM OF RADIAL ARTERY IN THE HAND.

MRS. W., aged 33, was cleaning her windows on the morning of May 21st, 1910, when her right hand slipped and a piece of glass at least 3 in. long entered the ulnar border of the hand and made its way deep into the palm. She at once withdrew it and came to see me the same afternoon, when I noticed there was a great amount of swelling in the first dorsal interosseous space, attributed to the glass ploughing its way among the muscle fibres and the extravasation of blood resulting therefrom. As there still might be some pieces of glass remaining in the hand an *x*-ray photograph was taken, but with a negative result. I sewed up the cut and applied fomentations to the swelling. In the course of a week the swelling had lessened considerably, so that by June 6th her visits ceased.

On June 17th she came to see me again, as in the interval a large pulsating swelling had developed in the first dorsal interosseous space which on auscultation had a well-marked bruit. Traumatic aneurysm was diagnosed, and the case sent to the Nottingham General Hospital, and operated on by Mr. Morley Willis, Senior Assistant Surgeon, to whom I am much indebted for the following remarks:

The piece of glass which entered the ulnar border of the palmar surface of the hand just distal to the pisiform bone traversed the palm and wounded the radial artery.

Two things are curious: (*a*) That it should not have damaged the deep palmar arch in its course through the palm. (*b*) That, entering as it did on the palmar aspect, the injury to the artery and consequent aneurysmal swelling was evident on the dorsal aspect of the first interosseous space. That the arch itself was not wounded appears highly probable, as ligating the radial artery at the wrist (at the pulse) has quite cured the condition.

When last seen, on August 27th—that is, two months after the operation—she was quite well again.

D. MONTAGUE B. SNELL, M.R.C.S., L.R.C.P.

Stapleford, Notts.

PROSTATECTOMY DURING ACUTE RETENTION.[1]

MR. C., aged 59, had suffered from prostatic symptoms for four to five years. When only 56 years old he had to be catheterized by Dr. McCandless, of Rathfriland, for relief of acute retention of prostatic origin.

On December 27th, 1909, he again had an attack of complete retention. Dr. McCandless, being unable to pass a catheter, aspirated the bladder. On December 28th the

Prostate, weighing 3¾ oz. Inferior surface. *a*, Tube in urethra; *b*, tube in false passage; *b'* commencement of false passage; *c*, "middle lobe." (Actual size.)

patient came to town, and entered a nursing home. When I saw him at 4 p.m., I succeeded with some difficulty, but without using any force, in passing a large gum elastic catheter, and emptied the bladder. At 10 p.m. I again endeavoured to pass the catheter, but failed. I therefore decided to allow the bladder to become distended, when I could open it suprapubically without difficulty. This was done the following morning (December 29th). The prostate, which weighed 3¾ oz., was easily removed. Recovery was uneventful. He returned home at the end of three weeks, passing all urine naturally.

[1] Read before the Ulster Branch of the British Medical Association, December 18th, 1910.

The following points are of interest:

1. The early age at which prostatic enlargement was present (56).

2. A complete false passage existed traversing the right lobe. This may have been made by myself. In any case it shows how easily this can be done in a soft prostate.

3. The success attending operation during retention—a time at which a patient will welcome any procedure which promises relief.

I would therefore recommend, when any serious difficulty is experienced in catheterizing these patients, that the operation of prostatectomy should be undertaken without delay.

Belfast. A. B. MITCHELL, M.B., F.R.C.S.I.

Reports
ON
MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

THE EMERY HOSPITAL, ANAND, GUJERAT, INDIA.

FOREIGN BODIES IN THE LARGE INTESTINES.

(By N. JOSEPH RODRIGUES, L.R.C.P and S.Edin., L.F.P. and S.Glas., L.M.Dub.)

P. L., a coolie woman, aged 30, married, was admitted on December 26th, 1910, suffering from severe pains in the abdomen and back, which she said were caused by "two sticks which had been in her abdomen for the last two months." She stated that the sticks had been introduced per vaginam. Her general condition was satisfactory; she had had only occasional attacks of "ague," to which the natives in these parts attach very little importance. The menstrual history showed irregularity but nothing else of importance.

Shortly after admission an abdominal and uterine examination was made under anaesthesia, but no information was obtained to corroborate the patient's history of her ailments. Two days later I put the patient under anaesthesia again, and made an abdominal examination followed by an examination of the vagina and uterus. As there was some enlargement of the uterus and an offensive sanious discharge, I douched out the vagina and lightly packed it, in the hope that "something" would come away. As the patient was being removed from the table she began to be sick, and during the violent efforts to vomit my attention was called to a prominent point in the region of the left hypochondrium. I came to the conclusion that she most certainly had a foreign body in the abdomen and opened the abdomen by an incision in the middle line about 2 in. long immediately above the umbilicus. On introducing the finger I felt the foreign body, well under the ribs, and brought it up through the incision with the loop of bowel in which it was contained. A small incision through the bowel was all that was necessary, and with gentle manipulation the stick glided through quite easily. The incision in the bowel being treated, the loop was returned to its place. I made a search for the second stick and soon came upon it a little higher up lying in the transverse colon. I removed this stick, and did the same as in the first instance. The abdominal wound was next attended to, and the patient sent back to the wards.

The sticks, which are in my possession, are two pieces of bamboo rounded off and quite smooth. The one I removed first is 6 in. in length and cut short at both ends. The second stick is 5½ in. in length and pointed at one end. They are each ¾ in. in diameter. The patient remained at the hospital twenty-one days, when she was discharged, the abdominal wound having healed by primary union. The patient during her stay had an attack of malarial fever which lasted two days. She was soon put right with quinine.

UNDER the will of the late Miss Sarah Hampson, of Radcliffe, Lancashire, the Manchester Royal Infirmary, Bury Infirmary, Stockport Infirmary, The Children's Hospital, Pendlebury, and the Radcliffe and Whitefield Consumption Fund each receives a bequest of £1,000.

British Medical Association.
CLINICAL AND SCIENTIFIC PROCEEDINGS.

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.

Friday, April 7th, 1911.

Dr. FORD ANDERSON, in the Chair.

After-Effects of Appendicitis in the Female.

MR. CHARLES RYALL read a paper on this subject. He said curettage of the uterus could scarcely be described as an eminently scientific method of treating appendicitis in the female. Nevertheless, a very large number of cases were treated in this way, the treatment being directed toward the relief of odd pains, dysmenorrhoea, and other uterine symptoms. What he would describe as tinkering was very frequently resorted to as a means of dealing with symptoms which were due to inflammatory affections of the appendix. Before turning his attention to the mistakes which were perpetrated in this direction, he asked his audience to consider the anatomy of the female pelvis and lower portion of the abdomen. The organs included in the true pelvis were highly sensitive and more or less complex organs. The genital organs were prone to all sorts of pathological conditions. The caecum was supposed to be situated well away from the true pelvis in the right iliac fossa. He had found on the operating table, however, that the position of the caecum varied very greatly. It occupied a much lower position in the female than in the male. He could not say why this was so, but suggested that it might be due to constipation, which was more common in the female than in the male, or to pregnancy, or to corsets and bands holding up heavy skirts. He had seen it lying over the brim of the pelvis, and even situated in the true pelvis. In a number of cases he would therefore describe the caecum as a pelvic organ. With regard to the appendix, this organ was supposed to lie at McBurney's point. Its length varied from 3 in. to 6 in., and its mobility also varied considerably. The mobility did not depend entirely on its length; it depended partly on the length of the mesentery. It was nominally regarded as lying in the right iliac fossa, but his own observations at operations had taught him that it should be regarded as a pelvic organ. In about 50 per cent. of cases, he had found it lying over the pelvic brim, or even peacefully reclining in Douglas's pouch. Mr. Ryall pointed out that when this organ became inflamed, it was capable of communicating its inflammation to the contiguous organs. The organs most frequently affected in this manner were the right Fallopian tube and the right ovary. The effects of a communicated inflammation to the contiguous organs might be various. In the first place, he dealt with catarrhal affections of the appendix. The attack might subside without leaving any evidence behind, or it might give rise to ulceration and subsequent constriction. When the inflammation extended through the various coats and attacked the peritoneal covering of the appendix, Nature usually succeeded in shutting off the spread of the inflammation. A plastic peritonitis resulted, plastic exudation was thrown out and the adjoining coils of intestine, omentum or other organs became adherent to one another and closed in the appendix. If the attack subsided without complication, adhesions might be formed between the various organs, and in the event of the appendix being in contact with the pelvic organs, it became matted together with the tubes, ovaries, or other genital organs. Even when the appendix lay in the right iliac fossa, adhesions implicating the pelvic organs might be formed. In the second place, he dealt with suppurative appendicitis. In this condition the adhesions were more serious. They were denser and produced marked symptoms. The spread of the inflammation might be extensive and might even involve the left uterine appendages. Douglas's pouch was often involved. When the appendix was a true pelvic organ, the uterine appendages on both sides were always implicated. The adhesions might bind down the right ovary, or they might render the ovary adherent to the tube, or they might close up the ostium of the

tube. Similar complications might involve the organs on the left side. The results of this inflammation and suppuration and the subsequent binding down of the various organs were ovarian pain and dysmenorrhoea. The closure of the ostium was followed by sterility, and the ultimate result of the attacks was a condition of chronic and distressing suffering, and even chronic invalidism. If the condition was not recognized and properly dealt with, the prognosis as to the future well-being of the subject would be very bad. The confusion in regard to the diagnosis and treatment was largely due to want of knowledge of the anatomy and physiology of the pelvic organs and of the organs in the lower part of the abdomen. In order to illustrate these points Mr. Ryall gave details of a case which came to his notice many years ago. A woman approaching middle age had suffered from abdominal pains for some years, as well as dysmenorrhoea. She had been operated on, and both ovaries, which were found to be cystic, had been removed. The pain was relieved after the operation as long as the patient was in bed, but when she got up it returned and rapidly got worse than before. This relief from pain was the rule when a patient was kept at rest in bed and when hygienic treatment was applied. At the time of the operation adhesions had been seen involving the pelvic organs. It was, therefore, thought that the recurrent pains were due to these adhesions, and a second operation was undertaken at which the adhesions were dealt with. The same results followed the second operation—first relief and then return and increase of the symptoms. In the course of time at least four laparotomies were performed on this unfortunate woman without any lasting benefit. At last some one thought that the appendix might have been the cause of all the trouble. This organ was removed and permanent relief was obtained. Mr. Ryall then turned his attention to a series of cases in which, while the appendicitis caused symptoms of disturbance of the pelvic organs, no gross pelvic disease resulted which could account for the symptoms. He illustrated his views by giving details of 3 cases. The first patient was a girl of 18 years, who had suffered from dysmenorrhoea, increasing in severity from year to year. The attacks caused her to writhe in agony and the pain was of a colicky nature. All sorts of remedies had been resorted to without any result. The practitioner in charge of the case diagnosed ovaritis and advised dilatation of the os uteri as a preliminary treatment before resorting to the removal of the ovary. Before she was operated on Mr. Ryall was consulted. On inquiry he learnt that she had had an acute attack of "inflammation of the bowels" at the age of 12, and had been confined to bed for some weeks at the time. Later she experienced discomfort and disinclination to move the right leg. This disinclination to move the right leg appeared to be suggestive of an affection of the appendix. Mr. Ryall explained the connexion by presuming that the inflamed appendix lay on the psoas muscle in these cases. Movements of this muscle resulted in transferred pain, localized in the right iliac fossa. He recommended laparotomy. On opening the abdomen he found the appendix bound down by adhesions. The pelvic organs were to all appearances quite healthy. The appendix was removed, and the patient made a complete recovery, the symptoms clearing up entirely. In discussing why the inflamed appendix produced dysmenorrhoea in this case, he pointed out that the appendix was found to have a constricted scar. The vessels running together with the ligament connecting the right ovary with the meso-appendix would cause a suffusion of the parts during the period when the uterus and appendages were engorged. The mucous membrane of the appendix would then swell, and the constricted band, being dense, would not allow of any dilatation. Pain would follow such a condition of things. With regard to the ligament, he stated that it was well defined in about 10 per cent. of all females, and would be present in a less well-defined condition in the remaining 90 per cent. This case showed how necessary it was to go back to the early history of the case. The second patient was a young married woman, aged 26 years. She had suffered from dysmenorrhoea and increased loss for two and a half years. A displacement of the uterus had been treated by curetting and various pessaries, etc. The history of the case revealed that the patient had been laid up for eight weeks two and a half years previously with an acute abdominal attack. He operated on her, and found signs of old inflammation. The appendix was lying in the true pelvis behind the right ovary, but not in absolute contact with it. The fundus of the uterus was bound down by strong adhesions to the posterior wall of Douglas's pouch. He removed the appendix, freed the adhesions, and performed ventro-suspension of the uterus. Complete recovery followed. It was obvious that no pessary could benefit the patient in the very least, since the uterus was firmly fixed in a retroverted position. The third patient was a married woman aged 25 years. She had suffered from leucorrhoea and dysmenorrhoea. Curettage had been performed by an eminent gynaecologist, and had been followed by an acute abdominal attack. There was no tumour on examination at first, but distinct tenderness in the right fornix. On the following day, a swelling in the fornix had appeared. The temperature had risen, the pulse rate was rapid, and there was rigidity of the muscles of the right half of the abdomen. At the operation, the appendix was found adherent to the right ovary. There was a large abscess in the surrounding tissues, and the tip of the appendix was gangrenous. She had had previous attacks of abdominal inflammation. He explained the case by presuming that the appendix had been a pelvic organ at the first abdominal attack. The curettage had given rise to an acute flaring up of the inflammatory trouble, which resulted in the formation of an abscess. These cases, he urged, demonstrated that symptoms of pelvic disease might occur without any signs of pelvic disease. In the second series of cases the condition was more serious. Pelvic disease was present, and the cases illustrated the fact that, in spite of the existence of changes in the ovaries and other organs, cure could only be effected by the removal of the inflamed appendix, which gave rise to the trouble. The first patient was a married woman, aged 32 years, who had suffered from dysmenorrhoea and pain in the right iliac fossa for years. She had been treated by douches, spas, and other measures. No benefit had followed. A provincial surgeon had diagnosed disease of the right ovary and had removed that organ. Improvement took place at first, but the symptoms soon returned and even got worse. When seen by Mr. Ryall, she was reduced to a condition approaching chronic invalidism. The history showed that she had had previous attacks of an abdominal nature. An exploratory operation revealed massive adhesions, matting the tissue in the right side of the pelvic and burying the appendix. Recovery followed, which was almost complete. Some symptoms of a metritis persisted. It was evident that the disease of the ovary was not the cause of the symptoms. Another patient, a woman aged 40 years, was suffering from pain, dysmenorrhoea, and the like. She was a complete invalid. She had had several attacks of abdominal pain. Curettage had brought no relief. Cystic disease of the left ovary had been discovered at a previous operation, and the organ had been removed. The pain persisted. The diagnosis of hysteria was rather favoured, and Mr. Ryall at first hesitated whether he should operate. Later, being urged to do something, he opened the abdomen and found extensive adhesions implicating the right ovary and both sides of the pelvis. The appendix was much affected. The ovary and appendix were removed, and absolute recovery ensued. In this case he believed that the apparent disease had not caused the symptoms. Mr. Ryall then demonstrated with the assistance of diagrams the manner of the spread of the inflammation in these cases, and how adhesions formed and gave rise to symptoms. In conclusion, he stated that on the previous night he had had a tragic experience. He had been called to the country to attend to a lady aged 27 years. At the age of 19 years the patient had had an acute attack of appendicitis, after she had had several slight attacks. An operation had been performed, and an abscess had been evacuated. The symptoms on the previous night were those of obstruction of the bowels. He was given a free hand to do what was necessary to remove the symptoms, but was not allowed to interfere with the generative organs. A band was causing the obstruction. The uterus was retroverted and tied down in Douglas's pouch by adhesions. Both tubes were the seat of chronic inflammation, as were both ovaries. The fimbriae were sealed up on both sides. He regarded it as a real tragedy that this

woman should be doomed to hopeless suffering and intolerable pain in the vain hope that she might some day enjoy the bliss of maternity, a hope which would never be fulfilled. The moral of his remarks was that when symptoms of pelvic disease were present always inquire into the history, so as to ascertain what condition the appendix was in. Symptoms of pelvic disease could be present without signs of the same; the symptoms might be due to inflammation arising from an inflamed appendix. After recovery from appendicitis women were exposed to great risks to life, and still greater risks to irreparable damage to their pelvic organs, which might lead to chronic invalidism.

Dr. MAY THORNE expressed her thanks to Mr. Ryall for his admirable paper. Mr. Ryall had not spoken of the now happily passing fashion of operating on cases of pelvic inflammation per vaginam. In all cases of pelvic inflammation she strongly advocated the abdominal route, since the appendix was so often affected and required surgical treatment. She spoke of ectopic gestation in connexion with appendicitis, and raised the question whether an attack of appendicitis preceded some of these ectopic cases. The gestation frequently occurred on the right side; there was always some definite change in the mucous membrane of the right tube, and the appendix was at times bound down to the right Fallopian tube. Passing from that point, she called attention to the generally accepted view that appendicitis was more common in men than in women. She suggested that the appendiculo-ovarian ligament might be the saving of women in this respect. The better blood supply of the appendix derived by the twig from the ovarian artery, as well as from the ileo-colic artery, would lead to an increased power of resistance of the organ in females. She drew attention to appendicitis complicating miscarriage. She had never seen a case of appendicitis as a complication of full-time labour, but had had the opportunity of following out the details of two cases. From the knowledge which she possessed of these two classes of cases, she urged that every woman who had had an attack of appendicitis and became pregnant should have her appendix removed. The operation could be performed during the early stages of pregnancy without any risk; and even at a later stage it could be performed with security by competent surgeons. She agreed with Mr. Ryall that dysmenorrhoea was a frequent sequel of appendicitis in the female. It also complicated uterine myomata, ovarian cysts, and other gynaecological affections.

Mr. ERNEST WARE regarded the caecum as a pelvic organ in the vast majority of cases. When the surgeon opened the abdomen, the textbook anatomical data were found to be far from correct. The transverse colon was supposed, for example, to be situated above the level of the umbilicus, but he had found that it was nearly always well below it. He disagreed with Mr. Ryall in his statement that the appendix became a pelvic organ on account of the length of the meso-appendix. He believed that it became a pelvic organ owing to the dislocation of the caecum. He mentioned a case in which he removed the appendix and examined everything that he could reach. He found that the left ovary was adherent to the left side of the pelvis, well down in Douglas's pouch. He found himself forced to open the abdomen in the middle line in order to remove the ovary. He added that the right ovary and appendages were healthy. With regard to adhesions, he was of opinion that they did clear up spontaneously at times. He instanced a case of volvulus and intussusception, in which three severe operations had to be carried out. Attacks of acute abdominal pain occurred after the second operation, but not a trace of an adhesion was found at the third. He believed that the adhesions might clear up if all sources of infection were excluded.

Dr. MACKINTOSH spoke of a case under his care in which pain, fullness, and other symptoms were found on the *left* side. Mr. Lockwood operated for him, and the appendix, surrounded by a small abscess, was found adherent to the right Fallopian tube, and involving the right infundibulo-pelvic ligament. A huge pyosalpinx was found distending the right tube, bulging upwards and to the left. The abscess burst during the operation, but the pus did not infect the peritoneum, and the patient made a good recovery.

Dr. OPPENHEIMER asked Mr. Ryall if he could offer an explanation of the following case: A little girl underwent an ordinary operation for appendicitis. Nothing unusual was found at the operation, and there was no suppuration. Eight or ten days later fresh symptoms developed. An abscess had formed in the left side, and discharged into the bowel. The connexion between the inflammation of the appendix and the formation of the abscess on the left side had not been found, nor could he suggest any explanation for the occurrence.

Dr. FORD ANDERSON noted that Dr. May Thorne had mentioned the frequency with which appendicitis was associated with miscarriage. He recalled some cases where the operation had been performed later with satisfactory results. His memory carried him back to the days before appendicitis had been popularized by Sir Frederick Treves. It was known in those days as perityphlitis. The patients used to be kept in bed, opium was given, and the majority of them got well for a time. Some of those old cases of appendicitis or perityphlitis were characterized by the formation of abscesses in almost any part of the body. There were psoas abscesses, cold abscesses in the thigh, empyemas, abscesses in the brain, matter appearing in the neck, and so forth. These cases were now recognized as being instances of secondary suppuration caused by appendicitis, but, happily, they were very rare now. He was disappointed that Mr. Ryall had not dealt with some of the difficulties in the diagnosis. In this respect he had recently seen a boy whose viscera were transposed. If this boy were suddenly attacked with appendicitis, the diagnosis might be extremely difficult on account of the fact that the appendix was on the left side. He then spoke of two manifestations of appendicitis. The first of these was solely a congestion at the base of the right lung. This was the only indication that the case was one of appendicitis. He suggested that this might be due to the restriction of the movements of the muscles of the right side of the chest, and the restricted movements would be due to the inflammation of the appendix. Recently there had been some correspondence about cases of appendicitis with prominent dyspeptic symptoms. Disturbances of the stomach had clearly been shown in these cases to be due to appendicitis.

In his reply, Mr. RYALL regretted that he could not enter into the question of differential diagnosis. He had only been able to touch briefly on some aspects of his subject proper without wandering into side channels. He expressed himself as sceptical with regard to the assumption that the cases of congestion at the base of the right lung were appendicitis. He recognized that appendicitis was at times manifested by dyspeptic symptoms. Referring to the old-fashioned treatment of appendicitis by opium, he found it very useful at times. Many hospital surgeons objected to opium on the ground that it cloaked symptoms, but he was convinced of its utility. With regard to operation in cases of pelvic inflammation, he agreed with Dr. May Thorne that the abdominal route was essential. He also agreed that appendicitis might precede ectopic gestation, and give rise to it. It could also be caused by a ruptured ectopic gestation. With regard to the frequency of appendicitis in the two sexes, he recognized that it was said to be more common in males than in females, but he doubted whether this was true. At the Bolingbroke Hospital, during the years 1909–1910, 37 males had been dealt with for this condition as against 57 females. His experience told him that it was more common in females. Cystic disease of the ovaries no doubt was often due to inflammatory trouble, and therefore would be due to inflammation of the appendix in a certain number of cases. He had seen appendicitis complicating pregnancy. In reply to Mr. WARE, he dealt severely with the habit practised by some surgeons of operating through small incisions. He regarded this as juggling, but not surgery. It was always necessary to see as well as to feel. He spoke of the value of the Trendelenburg position for these cases. He realized that surgeons did not like having to close a wound on the right side and begin again in the middle line. With regard to adhesions clearing up, why should they not? He recognized that even cancer at times cleared up spontaneously, although this was very rare. Dr. Mackintosh's case was interesting, and demonstrated that the localization of the pain must not be trusted in

making the diagnosis. Acute appendicitis had been known to cause a pyosalpinx, but the appendicitis was more often secondary. Dr. Oppenheimer's case was another of those conundrums which his acute observation and active brain were constantly evolving. He could only suggest that the abscess was a secondary infection, but a satisfactory explanation was difficult to offer.

Reports of Societies.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Obstetrics.

Friday, March 24th, 1911.

Dr. H. Jellett, President, in the Chair.

Natural Delivery after Caesarean Section.

Dr. Solomons, in a note on a case of natural delivery following Caesarean section, combated the dread which beset most obstetricians of allowing a woman with a cicatrix in her uterus to deliver herself. The baby born by Caesarean section weighed 7 lb., the one born naturally 6½ lb. The true conjugate after measuring at the birth of the first two babies was 7 cm., transverse diameter of inlet 10 cm.; at the birth of the third the conjugata vera was 8 cm., transverse 12.5 cm. Dr. Holmes said there must have been some disparity in the measurements, considering there seemed to have been an increase of 1 cm. in the conjugata vera and 2 cm. in the transverse diameter. With regard to the weight of the children, the child born by Caesarean section weighed 7 lb., while the other weighed 6½ lb. He thought the size of the child's head must be taken into consideration. Dr. Twerdy did not think the pelvis had enlarged between the two births. The pelvis must have been wrongly measured the first time, as it was easy for those without much practice to go wrong in the use of Skutch's pelvimeter. He considered it an extremely rash thing to have allowed the woman to deliver herself, considering that the uterus was adherent to the scar, and the woman gave a history of a sinus for three years after the Caesarean section. Dr. Gibbon FitzGibbon thought that when a woman had to undergo a second Caesarean section the question of sterilization should be decided by the wishes of the patient, particularly when the children were living. The President said he did not see why the uterus should rupture during labour if it was adherent to the back of the abdominal scar. An attempt was made to encourage the formation of such adhesions with the object of guarding against a possible peritoneal infection, and a considerable number of patients with adherent scars must have come into labour, because the practice of performing Caesarean section before the patient had been some time in labour was quite modern. If the uterine scar ruptured during labour it would be immediately diagnosed, and would not be a serious matter. In regard to sterilization, one must take into consideration the number of children the patient had. He would be inclined to carry out her wishes if she had children before. Dr. Solomons did not think the pelvis was wrongly measured, considering that the measurements carried out in the Rotunda and at Holles Street were found to correspond. As regards the maturity of the child, both its appearance and the history showed that it was full term. He did not see why a uterine scar should prevent a patient continuing her labour. As regards sterilization of the patient, he quoted Karl Hartmann's statistics, which showed that there was less danger in performing subsequent Caesarean sections than in doing it the first time. This seemed to be a strong argument against sterilizing the patient.

Section of Pathology.

At a meeting on Friday, March 31st, 1911, Dr. A. H. Benson, President, in the chair, Professor A. H. White showed some of the organs and some stained specimens of the blood from a typical case of *Pernicious anaemia*. The organs showed the characteristic fatty degeneration. The spleen was a little enlarged, and somewhat indurated. In slices from the liver and the kidney the presence of haemosiderin in exceptional amount was demonstrated by both the ferrocyanide and ammonium hydrosulphide methods. A point of interest was clear evidence of healed tuberculosis, found in the apex of one lung and in the liver. Dr. Wm Boxwell said that this patient had been twice "cured" of her ailment by the administration of cacodylate of sodium. When first admitted to hospital, exactly a year before, she was almost *in extremis*. The red cells had fallen to 17 per cent., the haemoglobin to 20 per cent. The blood was full of nucleated red cells, and occasional myelocytes could be found. Her teeth were carious, and the lower incisors entirely stripped of their enamel. Cultures had been made from the dentine, and compared with many taken from the teeth of various other patients, but nothing exceptional was found. After a three months' course of arsenic she made an apparent and wonderful recovery. Professor J. A. Scott demonstrated the organ of a man who before death was known to have a large spleen and disease of the kidneys. The *post mortem* examination showed a large spleen, which weighed 4½ lb., and was covered with whitish patches about ¼ in. in diameter. The liver was slightly pale and showed small light-coloured spots, which were rather hard to see. The lungs were slightly pneumonic. The case subsequently proved to be a case of tuberculosis. The heart showed patches of fibrous tissue in the wall of the left ventricle. The aorta had a fibrous mass growing from the edge of a patch of atheroma. The microscopical examination of the liver proved the nature of the disease. The small spots were minute miliary tubercles, showing granuloma and giant cells. The spleen showed granuloma and giant cells, but much more fibrous tissue and caseation. The lungs showed tuberculous patches and catarrhal pneumonia. The kidneys contained similar miliary tubercles. The disease appeared to have commenced in the spleen, from which it was diffused through the whole body. Dr. Gunn said the man was ill three weeks before he came into hospital, when he had extreme tenderness over the spleen and high fever. It was thought he had a subphrenic abscess, but after he had been a few days in hospital they were satisfied it was an enlarged spleen. Dr. Moorhead said that chronic tuberculosis of the spleen was not so rare as was commonly thought. There was a form of chronic tuberculosis associated with enlarged tuberculous spleen, and resembling Hodgkin's disease, that was far from rare. Often the only clue to diagnosis in such a case, apart from excising a gland, lay in enumerating the white cells of the blood. In the tuberculous condition to which he referred the lymphocytes were usually much diminished.

ROYAL SOCIETY OF MEDICINE.

Section of Balneology and Climatology.

At a meeting on April 5th, Dr. T. Fred. Gardner President, in the chair, Dr. David Brown (Harrogate), in the second of a series of papers on the pharmacological effects of the *Strong sulphur water of Harrogate*, offered further grounds for believing that these were as follows: (1) A positive diuresis; (2) an increase in the body (or endogenous) uric acid; (3) an additional excretion of food (or exogenous) uric acid, amounting in all to 80 per cent. of the amount ingested; (4) an increase of 6 per cent. in the total nitrogenous output; (5) an increase of 18 per cent. in total phosphates on a fixed non-purin diet; (6) an increase of nearly 100 per cent. in the excretion of indoxylsulphuric acid (indican); (7) no noteworthy alteration in the arterial blood pressure; (8) no marked alteration in the amount of potassium sulphocyanate of the saliva. Results numbered 2, 3, 4, and 5 were thought to show a distinct increase in general metabolic processes of the body, No. 3 pointing especially to stimulation of the fermenting processes of the liver. Dr. Mantle (Harrogate) said he had found in some cases an increase in the arterial pressure when the strong sulphur water was first administered, but it was usually soon followed by a steady fall. Diastolic pressure he considered too indefinite to be of clinical use. Dr. Phineas Abraham hoped that Dr. Brown would continue his observations, and that other medical men in the various watering places would follow his example. Most of existing knowledge of the therapeutical effects of the spa waters was purely empirical, and exact scientific work of this description was greatly wanted. He had learnt one thing at least from the paper, namely, that

sulphur water had an oxidizing instead of reducing effect on the tissues, as was generally believed and thought to be the case.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

Friday, April 7th, 1911.

Dr. W. G. WILLOUGHBY, President, in the Chair.

Cubicle Isolation.

DR. F. FOORD CAIGER opened a discussion upon the value and limitations of cubicle isolation. He differentiated between cubicle isolation where the patients were merely separated by partitions of moderate height, the air in the ward being common to all, and the system in vogue at the Institut Pasteur in Paris, in the Walthamstow and other isolation hospitals, where the ward is divided into a number of self-contained chambers, each separately ventilated. At the South-Western Hospital, Stockwell, two wards had been divided into cubicles by glass partitions reaching to a height of 7 ft. from the floor level. The floor space of each cubicle was 120 sq. ft., and the air space 2,450 cubic ft. A central passage divided the cubicles. The doors, which were only 3 ft. 6 in. high, opened into this passage, and no two doors were exactly opposite to one another. A lavatory basin, over which was fixed a tepid spray worked by pedal action, was placed in each cubicle. There was also in each cubicle a separate overall for nurse and medical officer, and a distinct set of articles and appliances for each patient. The principle of administration was aseptic in its conception, and very rigid rules were laid down for the guidance of the attendants in order to minimize the possibility of what Dr. Caiger called "mediate infection." He gave the results of his experience during the four years since the establishment of the cubicles in connexion with nearly 1,000 patients, 33 of whom it might be assumed derived their infection either directly or indirectly from other patients occupying cubicles in the same ward. The patients in the cubicles were suffering from scarlet fever, rubella, diphtheria, measles, whooping-cough, chicken-pox, influenza, typhoid fever, or mumps. In 16 instances other patients contracted scarlet fever, in 6 chicken pox, in 2 rubella, and in 1 diphtheria. As a result of his observations, and from inference based on general experience, he considered that cubicles, as opposed to self-contained rooms, were unsuited for the treatment of small-pox, chicken-pox, and measles during the acute stage of the illness, and that there was apparently some risk in the case of septic scarlet fever. On the other hand, scarlet fever, if not of a septic type, diphtheria, measles in the post-eruptive stage, rubella, whooping-cough, mumps, influenza, typhoid, and probably typhus fever, could be treated without much fear of accident. The use of cubicles, if restricted to appropriate cases, possessed advantages over separate isolation wards in point of economy in construction and in staff, greater convenience in nursing, greater happiness to the patients, and in educational value in the training of nurses. Dr. H. E. ARMSTRONG referred to the possibility of infection being spread by flies in the cubicle system. He did not approve of patients suffering from different diseases being placed in the same ward. At Newcastle the erection of additional observation wards had been attended with excellent results. Dr. A. H. BYGOTT said that, although the question of more distinct isolation was a most important one in connexion with those hospitals where there was no resident medical officer, he did not consider that Dr. Caiger had made out a case for the adoption of cubicles in such institutions. Dr. MEREDITH RICHARDS considered that, although the cubicle system was useful under certain limited conditions, there was still a need for a large number of separate rooms. Dr. C. SANDERS, referring to the barrier system as adopted at the West Ham isolation hospital, admitted that its value was most evident in a ward devoted to cases of the same disease, and it prevented a simple case becoming serious. A separate room for each patient was the ideal method to adopt. Dr. FRANKLIN PARSONS considered that the Stockwell cubicles seemed to have advantages in nursing, and were useful in diseases of a short striking distance. Some forty years ago Mr. Henry Greenway of Plymouth had suggested the keeping of patients in glass rooms for the prevention of surgical complications, but with the advent of Listerism the need for this had passed away. Dr. S. C. LAWRENCE referred to the absence of cross infections at the Walthamstow isolation hospital. Mr. F. E. FREMANTLE suggested that a modification of the cubicle system might be adopted by surrounding the beds with glass screens, and arranging them so that the patients faced the light. Dr. W. BUTLER was of opinion that isolation hospitals should confer complete isolation, and that the patients should not breathe a common atmosphere. Dr. H. E. SANDILANDS pointed out that the cubicle system could not be adopted in rural districts where nurses were often employed only temporarily. Dr. T. STRAIN said that the experience of the Barnes isolation hospital had proved that the aseptic treatment of infectious cases was not necessarily more costly than the non-aseptic.

MEDICO-CHIRURGICAL SOCIETY OF GLASGOW.

Friday, April 7th, 1911.

Professor MUIR, President, in the Chair.

Lacrymal Disease.

MR. FREELAND FERGUS, in a paper on the treatment of lacrymal suppurative disease, said this was due not to organic stricture but to a septic condition of the lacrymal sac. In the early stages the passing of probes, not for removal of stricture but for the establishment of drainage and irrigation, was a legitimate method of treatment, but such treatment was sometimes continued for months, or even years, without effecting a cure. When a cure did not follow within a reasonable time the sac should be removed in order to safeguard the cornea, in the event of its being injured, from an obvious source of septic infection.

Salvarsan Treatment of Congenital Syphilis.

Mr. EDINGTON showed a boy, aged 16, who between the ages of 6 and 8 years had been operated on several times for tuberculous epiphysitis of the lower end of the left femur, and in October, 1909, had abscesses about the right ankle-joint. These were looked on as being also tuberculous, and opened and scraped, but did not heal. On the boy's admission to the Western Infirmary the exhibitor regarded the case as syphilitic—a view confirmed by a positive Wassermann reaction. On November 2nd, 0.45 gram of "606" was injected into the interscapular region; on December 22nd 0.2 gram was injected into the median basilic vein; on February 15th the skin lesion had healed, but the Wassermann reaction being still positive on January 24th 0.27 gram of "606" was given intravenously. On March 6th the Wassermann reaction was negative, and the condition of the ankle has since remained quite satisfactory. Dr. BROWNING, who carried out the treatment, pointed out that the neutral emulsion of this drug is very irritating to the subcutaneous tissues of certain individuals, the drug not being well absorbed, its therapeutic effect poor, and extensive skin necrosis sometimes resulting. He recommended the intravenous injection, and had, along with Dr. Ivy Mackenzie, treated upwards of 50 cases by this method without untoward side-effects. The Wassermann reaction should be taken as a guide to treatment. Treatment sufficient only to cause the disappearance of a lesion did not convert a positively reacting serum into a negative one, especially in tertiary and congenital cases. A positively reacting serum should be regarded as the most delicate sign of infection and as an indication that there was danger of a recrudescence. Treatment, therefore, should aim not merely at causing disappearance of lesions, but also at the conversion of a positively reacting serum into one which remained permanently negative.

GLASGOW OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

Wednesday, March 29th, 1911.

Dr. A. W. RUSSELL, President, in the Chair.

The Technique of Caesarean Section.

DR. J. M. MUNRO KERR, in a paper on the operative technique in Caesarean section, said the real questions of importance were—(1) dealing with infective or suspect cases; (2) the suturing of the uterine wound; (3) the position of the uterine incision. In view of the great mortality resulting, conservative Caesarean section was

not justifiable in cases which had been handled previous to the proposed operation. The difficulty was to find a substitute. He suggested craniotomy, Caesarean panhysterectomy, and the extraperitoneal variety of Caesarean section. He was inclined to favour craniotomy, as he had a great dislike to remove the uterus from a young healthy woman who would possibly become pregnant again. Even when one performed Caesarean section in such cases, the fetal mortality was high. When section was performed in a suspect case he advocated the complete removal of the uterus as the cervix—the infected area—was removed. He would not hesitate to perform a Caesarean panhysterectomy in a woman coming near the menopause, who, in consequence, would not have another chance of becoming pregnant. The extraperitoneal operation performed by Döderlein did not, even when accompanied by Sellheim's fistula for drainage, give any better results than other procedures in suspected cases. In order to reduce the possibility of sepsis as much as possible, he suggested the removal of the placenta *per vias naturales*, and not through the uterine wound as formerly. The uterine wound, he said, was peculiar and unlike the wound in any other abdominal viscus, in that it was thick, it was always in a state of unrest—contracting and retracting—and there was also a certain amount of haemorrhage that could not be controlled. In the suturing of the wound one left the mucous membrane alone, with the result that a little gutter was left, which healed by granulation and which was liable to become septic. The ligature in the uterine wound had to be drawn tighter than in other wounds, as it had not only to bring the edges accurately together, but it had also to stop the haemorrhage. The lower uterine segment was the better part to incise in performing Caesarean section, because it was always at rest and the haemorrhage was never so great as in the upper segment. Dr. DAVID SHANNON favoured craniotomy in cases that were suspicious. He always performed it on a patient admitted to hospital with a history of having been in the second stage of labour for many hours, where forceps had failed, and where numerous vaginal examinations had been made. In such cases the cervix was the infected area, and it was safer for the mother, in his opinion, to do a craniotomy than Caesarean section followed by a subtotal hysterectomy. Regarding suture material for the uterine wound, he had in his own cases used both silk and catgut, but he thought that it was of no consequence which was used. The strength of the wound depended not on the ligature, but on the fact whether the wound became septic or not. Douching of the uterus before operation he considered an unwise procedure. Dr. DICKIE said the uterine wound was identical in its healing with all other wounds. The fault was not in the uterus, but in the imperfect technique employed. Uterine sutures were too tightly tied. No surgeon would have rupture of the uterus in his aseptic cases. Dr. JAMES CRAIG was doubtful whether it was possible to get a perfect healing wound in the uterus. Dr. DUFF thought intrauterine irrigation was distinctly unsurgical. In douching such a case infection would be carried from the infected cervix and child's head into the uterus. No difficulty should be experienced in stitching the uterine wound in layers, and he was strongly of the opinion that the sutures should not be tied too tight, as necrosis was liable to take place. Dr. LOUISE MCILROY said the practice of douching the amniotic cavity for the prevention of subsequent sepsis was a dangerous proceeding, as the fluid was a means of disseminating sepsis through the cavity. Antiseptic fluid, she said, unless strong enough to kill the tissues, was useless as a douching agent. The PRESIDENT had repeatedly performed the operation for the second time on the same patient, but on no occasion had he seen any sign of weakening of the wound. He was still satisfied with chromicized catgut, and had never used silk or silkworm gut. He thought the security of the wound depended not so much on its situation or on the nature of the material used as upon the thoroughness of the asepsis. Irrigation of the uterine cavity was not always possible, but it was a suggestion that should be kept in mind. Dr. RUSSELL concluded by briefly relating his technique in extraperitoneal Caesarean section; he was of the opinion that the operation had its place alongside the classical Caesarean section. Dr. KERR replied.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

AT a clinical meeting on April 7th, Dr. PHINEAS S. ABRAHAM, President, in the chair, the following were among the exhibits: Dr. ABRAHAM: A case of *Mycosis fungoides* in a man. A positive Wassermann reaction had been obtained, and some improvement had taken place under potassium iodide and *x* rays. The exhibitor intended to try the effect of salvarsan. Dr. SEYMOUR TAYLOR: (1) A case of unresolved *Pneumonia* in a man, aged 45, who for three weeks after the crisis presented the physical signs of consolidation. It was shown as emphasizing the teaching that during early convalescence from pneumonia the evidence given by the temperature and pulse charts was of greater value than that afforded by the stethoscope. (2) A case of *Tumour of the loin* in a man who had suffered with empyema of the same side, and whose pleural cavity had been drained. The tumour, which occupied the site of Petit's triangle, was of the size of a hen's egg and reducible. It gave the sensation of a hernial protrusion of bowel. Mr. MCADAM ECCLES thought it a lumbar abscess finding its way from within the thorax through Petit's triangle. Dr. FREDERICK S. PALMER: A case of *Bulbar paralysis* in a woman aged 51. Lumbar puncture was performed, but owing to the presence of blood in the cerebro-spinal fluid the examination for lymphocytosis was not satisfactory. A positive Wassermann reaction was obtained; under mercurial inunction and 20-grain doses of potassium iodide three times daily she had distinctly improved. Mr. LAMING EVANS: A case of *Osteitis deformans* in a woman, aged 43, who, eight years ago, after her last confinement, noticed that her right shin bone was painful and thickened. She now presented great thickening of the right tibia, which was markedly curved forwards and outwards. A skiagram showed the normal condition of the fibula and the thickening of the tibia. The cranium, spine, and other long bones were normal; the disease had remained localized for eight years. Dr. ARTHUR SAUNDERS: A case of *Tabes dorsalis* of recent onset in a woman, aged 40. A positive Wassermann reaction was obtained. On the injection of "606" marked improvement occurred, and at a subsequent examination the reaction was almost completely negative. Dr. ASLETT BALDWIN: A woman with great *Enlargement of the left lower limb;* marked improvement had followed the operation of lymphangioplasty. Mr. BISHOP HARMAN: (1) A case of *Dislocated lens* and absolute glaucoma in a man of 54. Examination of this case made it probable that he was the subject of a congenital partial dislocation of both lenses, and that the right lens was further dislocated as the result of a fall. (2) A case of *Congenital aniridia and lenticonus* in an infant, aged 7 months. He remarked that absence of the iris was not a common congenital defect and the lenticonus was still more rare; in respect to prognosis it would be unwise to promise more sight than the capability of getting about. Mr. DONALD ARMOUR: A case of operation for *Spinal cord tumour.* The patient was a man who had suffered from compression paraplegia which extended as high as the seventh cervical segment. Laminectomy was performed in December last, when a tumour growing from the seventh cervical posterior root within the dura mater was found and removed with the root. The patient made a complete recovery, and all signs of the paraplegia disappeared.

UNITED SERVICES MEDICAL SOCIETY.

AT a meeting on April 12th, Lieutenant-Colonel C. H. MELVILLE in the chair, Lieutenant A. J. MARTIN, M.I.C.E., 2nd London Sanitary Company, in a paper on *Camp sanitation*, discussed methods of overcoming the difficulties created by a stiff clay soil. Soakage pits should be shallow, and when intended for sullage water should be in the form of a trench filled in with old tins, and the whole covered with the excavated soil. Difficulties in getting rid of urine could be sometimes got over by running the urine into filled-up latrine trenches. The trenches leading to pits or soakage trenches should have permeable sides so as to absorb the greater quantity of urine before it reached the pit. The plan introduced by

Major Caldwell Smith of cutting away the sides of a latrine trench for a few inches downwards so as to give a firmer purchase for the men's feet when standing straddle across the trench was an improvement. The most generally useful pattern of incinerator was one constructed out of sods. Major E. B. WAGGETT, R.A.M.C.(T), in a paper on questions concerning *The medical strategy of London*, pointed out that an enemy would not be likely to assault London directly, but would try to bring about its capitulation by cutting its railway communications with the north and west, and thus bring it to the verge of starvation in a few days. As a consequence the fighting would take place in an area at least twenty miles from London. It was upon this area that the Territorial forces would have their place, and they would be much better occupied in studying it than in fighting imaginary battles at Aldershot or on Salisbury Plain. He then described, from the point of view of the establishment of camps and hospitals, the geology of the districts in which the Territorial Force was likely to be engaged, and drew the conclusion that on all grounds—sanitary, strategical, and moral—it would be undesirable to bring the wounded to London; they would have to be distributed in hospitals situated somewhere in the outskirts, and in a good many cases it would be better to distribute them in houses near where they fell, under the care of Voluntary Aid Detachments.

Reviews.

EPIDEMIC POLIOMYELITIS.

NEW YORK was visited by an epidemic of infantile paralysis in 1907, and a committee of medical men was appointed by the New York Neurological Society to report on it. Their report appeared in due course, and has been translated into German by Dr. KÄRCHER.[1] It is estimated that there were 2,500 cases in all at and around New York, with a mortality of about 100. The epidemic began in June, reached its maximum in September, and died away in November. Out of 756 cases, 62 were under 1 year old, 221 were 1 to 2, 180 were 2 to 3, 106 were 3 to 4, 65 were 4 to 5, 75 were 5 to 10, and only 2 were over 20; the youngest patient was two weeks old. Full details of the prodromes, symptoms, and paralyses observed are given; some sort of paralysis was left in 645 out of 752 cases, but it is not stated that the paralysis was permanent. Numerous pathological examinations of cerebro-spinal fluid obtained by lumbar puncture during life and of tissues removed *post mortem* were made. In most cases the results were negative; but in several instances it was found possible to give monkeys an acute disease, similar in its effects and pathological lesions to anterior poliomyelitis, by the injection of matter from the spinal cords of children who had died from acute infantile paralysis. No clear conclusions as to the nature of the virus were reached; the translator adds a number of references to the more recent literature of the subject. The pathology and pathogeny of the disease are very fully considered; the disease is undoubtedly infectious, and it is suggested that the infecting agent is probably protozoan rather than bacterial. The report ends with an excellent summary of the treatments found most serviceable. From many points of view this report is the best account of infantile paralysis that has yet appeared, and no neurologist can afford to do without it.

A smaller epidemic of this disorder occurred in Hesse and Westphalia in 1909, and a thoroughly painstaking account of this is given by Dr. E. MÜLLER[2] in a book that also contains a general discussion of the disease. Professor Müller's observations are based on 100 carefully-observed cases out of some 130 that came under his notice. There were 16 deaths, and 7 obductions were obtained; full details of these are set out, and Müller describes the pathological changes as those of an infiltrating, disseminated myelo-encephalitis involving the pia mater. Of the cases seen, 44 per cent. occurred in October, 34 per cent. in November; 75 per cent. were 3 years old or under, only 2 per cent. were 21 or more years of age. Most of the patients were well developed, healthy children. In 6 carefully observed cases the incubation period was five to ten days, and the average a week. The author thinks that Wickman's estimate of one to four days is too small. Fever is almost always observed during the first few days, and nine temperature charts are reproduced showing its character and duration. The severity of the paralysis bears no constant relation to the height of the fever, and the pulse was often accelerated out of all proportion to the temperature. In many of the patients an initial upset of the respiratory tract was noted—coryza, sore throat, bronchitis; in others the gastro-intestinal tract was disordered, with the occurrence of thirst, salivation, loss of appetite, vomiting, diarrhoea, abdominal pain, constipation. Marked hyperaesthesia on touching or moving the child was a very common early symptom, as were spontaneous pains; sweating, often profuse, occurred in three-fourths of the cases. During the febrile stage leucopenia was the rule. A full account of the paralyses observed is given; lumbar puncture was done in 11 cases; copious cerebro-spinal fluid was withdrawn, but was always sterile on cultivation, and showed no bacteria in fresh or stained specimens. Professor Müller's account of this epidemic contains many interesting details, and his quotations from the records of other epidemics enable him to compare and contrast the outstanding features of these different visitations as observed in different countries.

[1] *Epidemische Kinderlähmung.* Bericht des Komitees für die Sammelforschung bei der New Yorker Epidemie von 1907. Autorisierte deutsche Ausgabe von Dr. Max Kärcher. Jena: G. Fischer. 1910. (Roy. 8vo, pp. 129, 3 plates, 4 maps, 3 curves. M.4.)

[2] *Die spinale Kinderlähmung, ein klinische und epidemiologische Studie.* Von Professor Dr. Eduard Müller. 6½ in. by 9½ in.; pp. 170, with 21 figures and 2 tables. Berlin: J. Springer. 1910. (Price M.6.)

GYNAECOLOGICAL TEXTBOOKS.

A TEXTBOOK for students on any department of medicine, written by a man who has grasped the subject as a whole and treats of it in its relation to pathological processes generally, forming his own judgement on every disputed question, is a rare and good thing. Dr. FOTHERGILL'S *Manual of Diseases of Women*[3] is such a work, and therefore we welcome and applaud it. The work is divided into three parts: Part I, the diagnosis of gynaecological cases, occupying 37 pages; Part II, the diseases of women, to which 340 pages are devoted; and Part III, the management of gynaecological cases, described in about 40 pages. It may be inferred from the comparatively small sections devoted to diagnosis and treatment that diagnostic and therapeutic detail is not the object of the author; indeed, the section on gynaecological diagnosis hardly adequately fulfils what may be supposed to be his object. It is rather an enumeration of the possible causes of each symptom and a description of the methods of physical examination than instruction as to the differentiation between different causes of symptoms. The author has thought for himself, and has partly emerged from the old bad pathology. Thus he says (p. 14): "The difference between a healthy woman who has spasmodic dysmenorrhoea and one who has none is not in the pelvis, but in the head." "Cerebro-spinal nervous system" would have been more accurate than the colloquialism "head." But it is much to have the student plainly taught that pelvic pain does not necessarily mean pelvic disease. We say that he has only "partly" emerged, for on p. 15 he tells us:

> Spasmodic pain is common in women with congenital peculiarities, like extreme anteflexion, conical cervix, infantilism in various forms, the rare anteflexion with retroversion, retroversion, and retroflexion. *Many women with these peculiarities are free from menstrual pain.* Still, it is probable that irregularities in form and position favour irregular and extreme uterine contraction of a painful nature.

The sentence we have italicized is one which the student and practitioner should bear constantly in mind. The sentence which follows it repeats a theory which has been copied from book to book for more than half a century; and yet the author can refer to no evidence; he can only say that "it is *probable*." May it not be that the conditions he refers to are not commonly seen in healthy women simply because healthy women are not examined? In the treatment of dysmenorrhoea he recommends, we

[3] *Manual of Diseases of Women.* By W. E. Fothergill, M.A., B.Sc., M.D., Assistant Gynaecological Surgeon, Royal Infirmary, and St. Mary's Hospital, Manchester; Clinical Lecturer on Obstetrics and Gynaecology in the Victoria University of Manchester. Edinburgh and London: William Green and Sons. 1910. (Demy 8vo, pp. 452. 9s.)

think, a good deal more than is required—dilatation up to No. 18 English catheter, scraping, washing out, and plugging with gauze. Dilatation up to No. 12, without scraping or plugging, is, as a rule, effective. Mackintosh, who introduced the treatment by dilatation, did not use a larger bougie than No. 14. The greater part of the book, that on "The diseases of women," is divided into sections. (1) Errors of development. (2) Circulatory changes. (3) Mechanical conditions and injuries. (4) Results of infections. (5) Progressive conditions. (6) Retrogressive conditions. This is a sound classification. At p. 11 heart disease is stated to be a cause of menorrhagia. The author has presumably not read Dr. Gow's paper (*Obstetrical Society's Transactions*, vol. xxxvi), in which he showed that the effect of heart disease was in the direction of producing amenorrhœa, or otherwise he would have referred to it. In describing errors of development the author does not indicate the broad division drawn by Veit and others between retention of menses behind a transverse septum low down in the vagina, which produces haematocolpos but not haematometra or haematosalpinx, and in which the making of an opening by the cautery knife is efficient and satisfactory treatment; and the occlusion of the vagina by a broad atresia high up, due, according to Veit, to a symptomless vaginitis in childhood which produces haematometra and haematosalpinx; in which no way of letting the fluid out by the vagina will make the parts capable of healthy functional activity, and in which, therefore, as Dr. Fothergill says, removal of the uterus and tubes is the best treatment. The section on circulatory disturbances contains some sound remarks on so-called "ovaritis" and "endometritis," and on the influences of some sexual malpractices on health. Speaking of uterine fibroids the author says:

> A question which frequently arises is that of the removal of fibroids which are not causing any symptoms. It was formerly the custom to let these tumours well alone; but their removal has, of late years, become so safe that many authorities now recommend that fibroids should be removed as soon as they are discovered, like ovarian and other tumours. The operation is safer before symptoms have appeared and interfered with the patient's general health.

We do not know if the truism expressed in the last sentence is to be taken as indicating Dr. Fothergill's approval of the prophylactic removal of every fibroid. The principle pushed a little further would justify the removal of the uterus, ovaries, and breasts of every woman who has survived the child-bearing age. We are told at p. 239 that "subinvolution is notoriously commoner in women who do not give their children the breast." Sir John Williams, in a paper published in this JOURNAL in 1882, thoroughly investigated the effect of lactation on the involution of the uterus, and was unable to find that lactation or non-lactation had any effect upon involution. The adverb "notoriously" rather begs the question. In the case of pregnancy and labour with ovarian tumour, Dr. Fothergill advises ovariotomy *plus* Caesarean section. Why add the risk of Caesarean section? Why not let natural delivery take place? Although we have ventured to find fault with some statements, yet we think the book an excellent one. It does credit to its author. It is worth study by every one who practises gynaecology, and its effect will be not only to clarify their conceptions of disease, but to check unnecessary treatment.

Dr. EDEN states in the preface to his *Manual of Gynaecology*[4] that he has designed it for the use of the student and general practitioner, but it may be read with interest by the gynaecologist also. The chapters on the anatomy and histology of the female genito-urinary tract are well suited for purposes of instruction, especially as regards minute anatomy. The author takes great pains to demonstrate clearly the nature of the endometrium, the mucosa of the Fallopian tube, and the complicated elements of the ovary. Some of the more familiar features in the anatomy of the internal organs are not so clear. Thus the description of the broad ligaments is inadequate, and the important distinction between the mesometrium and mesosalpinx insisted on by Waldeyer and others should have been dwelt upon. A knowledge of the distinction is a great aid to the operator who has to deal with cysts burrowing in the mesosalpinx, and to an understanding of the relations of ectopic gestation sacs which displace the layers of the mesometrium. The nature of this displacement is, however, briefly described at p. 466 in a short paragraph on intraligamentary pregnancy. A sketch showing the distinction between the anterior and posterior type, as demonstrated by Freund and others, especially Taylor of Birmingham, would have been instructive, like Dr. Giles's drawings of the rupture of the tubal sac into the intraligamentary connective tissues, which are introduced. The descriptions of the embryological elements in the genital tract which have so large a share in tumours and malformations are fairly up to date. More importance might have been given to the ovarian fimbria of the tube, which is not represented at all in Figs. 17, 33, and 45, though quite prominent in Richard's old but accurate drawing (Fig. 21). Dr. Eden very rightly notices Dr. A. Keith's recent researches which threw doubt on current theories about the normal and morbid structures developed from Müller's and Gaertner's ducts, but wisely refrains from discussing questions on which authorities remain divided, such as the alleged origin of the common "parovarian" cyst from homologues of the rete testis at the junction of the ovarian fimbria with the ovary. There are some very good diagrammatic and semidiagrammatic drawings indicating the relations of normally placed and abnormally displaced pelvic viscera. Fig. 18 is to be commended; it is a diagram representing a section through the broad ligament about one inch outside the uterine border, the womb itself being drawn; the sketch is clearer and of more practical utility than most drawings of this type in gynaecological manuals. In the clinical part of the *Manual* the reader must feel that he is given the benefit of the author's personal experience. Dr. Eden has wisely refrained from allotting too much space to major operations. His synopses, as they may best be termed, of hysterectomy, ovariotomy, and radical operations for the extirpation of the cancerous uterus are brief and clear. Above all, he speaks prudently about "this comparatively modern operation, which is at present on its trial"—the method of Wertheim—although he himself has devised a modification, and a very good modification, too, of the great Austrian's special clamp. The book is well printed, and we have already referred to the excellence of some of the illustrations; a large proportion of them are original, being taken from the author's own clinical work, and the remainder borrowed from current standard treatises. We observe that Dr. Eden prefers microscopical drawings to photomicrographs for teaching purposes, and in this he is probably correct.

In his book on *Gynaecological Diagnosis*[5] Dr. BURRAGE of Harvard tells us that "the consultant frequently hears it said by the attending physician, 'Doctor, I know how to do this operation, but what puzzles me is to know when it is indicated.'" A doctor who will do an operation without knowing what benefit the operation will confer upon the patient seems to us distinctly a dangerous person. Dr. Burrage's work is divided into two parts: I. General Considerations; II. Special Diagnosis. In the first part, which comprises 161 pages, the methods of investigating gynaecological cases and examining the different pelvic organs are very fully and well described. The instruments, the use of which he teaches in an admirable manner, are practically the same as those used here, though most of them differ in some trifling detail. As an example of his careful detail we may take the subject of the curette. He advises what used to be known as Thomas's flexible curette (Thomas being now dead, his name drops out). Before scraping, the vagina, vulva, and adjacent parts are to be repeatedly washed with different fluids, but the surgeon is told to examine before any of the scrubbing has been done, so that he may appreciate what is the usual condition unaltered by chemicals. The scraping is always incomplete. Dr. Burrage has given special attention to this point, having used the curette just before hysterectomy and then examined the state of the endometrium after removal. He has found that after what seemed to be a most thorough scraping islands of endometrium

[4] *A Manual of Gynaecology*. By Thomas Watts Eden, M.D., C.M.Edin., F.R.C.P.Lond., F.R.C.S.Edin. With 272 illustrations in the text. London: J. and A. Churchill. 1911. (8vo, pp. 632. 18s.)

[5] *Gynaecological Diagnosis*. By Walter L. Burrage, A.M., M.D.Harv., Clinical Instructor in Gynaecology, Harvard University, etc. New York and London: D. Appleton and Co. 1910. (Roy. 8vo, pp. 672; illustrations 207. 25s.)

remained untouched. Therefore, after scraping, he further explores the uterine cavity with Emmett's "curette forceps," which is a forceps so made that the blades fit accurately together, and therefore will hold what comes within their grasp. He inserts this into the uterine cavity, and then repeatedly opens and closes the blades. He recommends for dilatation of the cervix a steel branched dilator, but with the caution that—

> The blades are to be separated by approximating the handles by manual pressure, not by turning the set screws, as is so often done. . . . When using the screw the operator cannot judge of the force he employs, whereas by manual pressure he can estimate it accurately.

The pages on dysmenorrhoea are a curious mixture of the old and the new. He divides cases of this disease, or rather—using the word as he uses it—symptom, into two classes: (1) Dysmenorrhoea associated with pelvic lesions; and (2) dysmenorrhoea where no pelvic lesion can be found. Among the pelvic lesions anteflexion is mentioned; he adds, however, that in this sort of uterus obstructive dysmenorrhoea was supposed by Marion Sims and his followers to occur; but that "at the present time the best authorities are agreed that actual obstruction seldom exists." In the second group, where no pelvic lesion can be found, the reader is told that "neurotic dysmenorrhoea appears to be due to excessive sensitiveness of the endometrium," and that "the physician is often left in doubt which is cause and which effect in the investigation of neurasthenia and dysmenorrhoea." The etiology of membranous dysmenorrhoea he tells us is "shrouded in mystery," but he does not mention the frequency with which Scanzoni and Sir J. Williams found that membranes were passed during menstruation by healthy women. The second part of the work would be inadequately described if it were said to be limited to diagnosis. It contains a good deal about pathology. It does not go into treatment. Throughout the whole book we every now and then come upon brief pregnant sentences, which show that the author is capable of thinking for himself. But he is so much imbued with respect for his teachers and contemporaries that he cannot throw them overboard, even when he more than half suspects that they are making assertions for which there is no sure ground. His illustrations are borrowed. Dr. Burrage quotes from Dr. E. C. Dudley and modifies a table of the diagnosis between different kinds of pelvic inflammation. At one place this table professes to teach the diagnosis between pyosalpinx and pelvic cellulitis. The reader is told that a pyosalpinx is a "mass of sharp outline and sausage shaped." This is a description of a pyosalpinx as seen in museum bottles. While in the living the pyosalpinx is usually adherent to the structures around it; it forms part of a tender swelling, which is substantial, but not of sharp outline. In the chapter on endometritis we find the author's diligent reading lit up with occasional bursts of independence. Thus, he tells us of a writer who finds eleven forms of endometritis, and another who describes ten different sorts of chronic endometritis. He quotes the usual stuff about the symptoms. Clinical experience, however, dictates the sentence: "Leucorrhoea is the only constant symptom." And further on: "Symptoms of general ill health usually accompany chronic endometritis, though it is not always easy to determine whether the ill health is due to the endometritis or the endometritis to the ill health." Among the causes of endometritis he specifies scarlet fever. We believe we are correct in saying that endometritis with scarlet fever is unknown at fever hospitals. Döderlein, in his thorough bibliography of the subject, finds no writer whom he can quote as evidence of the dependence of endometritis on scarlatina (Veit's *Handbuch der Gynäkologie*). If Dr. Burrage will ask himself the question, In some of the cases of ill health with leucorrhoea as the only symptom, what reason is there for supposing the uterus to be diseased? he may further help us. Dr. Burrage gives a page and a half of causes of sterility. Many of them are conditions which are often seen with pregnancy; but he rightly puts age as the chief factor. We hope that by the time his students press Dr. Burrage, as they probably will, to write for them a work dealing with treatment, he will use his own judgement, and discard what he is not convinced by his own experience is necessary and beneficial treatment.

THE TOYNBEES.

MISS GERTUDE TOYNBEE in her *Reminiscences and Letters of Joseph and Arnold Toynbee*[6] gives us a charming insight into the lives and characters of her father and her brother. The book is divided into two parts, the first dealing with Joseph Toynbee, the father; the second with his son Arnold. To each part a short chapter of reminiscences by the daughter, simply but touchingly told, is prefixed; the remainder of the book is composed entirely of correspondence, so that both father and son speak, as it were, directly to us.

The letters, in each case, are arranged in three series: those written to others, chiefly to members of their own family; those written by others to the Toynbees; and, lastly, letters written to the family on the death of father or son. This is an admirable arrangement. No better insight can be obtained into the character of a person than by the perusal of letters, especially those addressed to members of their own family or to intimate friends; such letters, written without any thought of publicity, reveal the "real self." In the second series of letters we learn with whom the Toynbees were on terms of friendship and in what subjects they were mutually interested; and by the letters of condolence, letters obviously of real sorrow, we are able to form an estimate of the opinions and feelings of others to whom they were more or less intimately known.

By whichever standpoint we endeavour to form a judgement of the characters of the two men, the same conclusion is forced upon us. By their letters they stand revealed as men of beautiful characters, full of the love of home life, keenly interested in nature, in literature, and in art; and above all full of sympathy for all mankind, especially those less fortunately situated than themselves. Underlying all is a simple but sincere religious conviction. The medical profession may indeed be proud to have numbered Joseph Toynbee as one of her distinguished sons.

A sympathetic reminiscence of Arnold has already appeared, written by his friend Viscount Milner, and is known to many; but we are indebted to Miss Toynbee for giving us further glimpses of his character. Arnold's influence for good on the Oxford undergraduates and even on his seniors are still remembered in the university. As pioneers of social reforms the name of Toynbee is a household word. It is such lives as these that leave permanent "footprints on the sands of time."

Many interesting sidelights are thrown incidentally on the difficulties and unpleasantnesses of Continental travel in the late Fifties and early Sixties of last century.

In conclusion, we would add that the contact with such men, even if only by their letters, cannot but leave an impression for good, and we realize in part what a severe loss their deaths must have been to those privileged to be on terms of intimacy. Miss Toynbee is to be congratulated on the completion of what must have been a labour of love. She has let the dead tell their own tale, and has exercised great forbearance in not giving expression to the feelings with which she must be deeply imbued.

THE POETRY OF SCIENCE.

PROFESSOR RONALD ROSS'S slender volume of verse, which appeared some time ago under the title of *Philosophies*,[7] was, we learn from his preface, written in India between the years 1881 and 1899, mostly while he was carrying on his researches on malaria. Further on the distinguished author refers to the contents of his book as "notes of the wayside," jotted down at intervals during the course of his long years of study. This explanation throws a light on the inner meaning of many of his poems. This is particularly the case with regard to the series of poems entitled "In Exile," which, it may be remarked in passing, includes some of the finest examples of Professor Ronald Ross's poetic art. A considerable amount of interest attaching to these latter may be due to the circumstances in which they were conceived and written, but their own intrinsic merits should by no means be overlooked. Professor Ross possesses in a very marked degree the faculty for creating the necessary atmosphere, and every

[6] *Reminiscences and Letters of Joseph and Arnold Toynbee.* Edited by Gertrude Toynbee. London: Henry J. Glaisher. (2s. 6d. net.)

[7] *Philosophies.* By Ronald Ross, F.R.C.S., D.Sc., LL.D., F.R.S., C.B. Published by John Murray, London. 1910. (Pp. 56. 1s.)

line of the exile's weary musings gives a vivid impression of the heat and dust and glare of India, the burning days and breathless nights, "the restless, unsatisfied longing" of a man doomed to labour during the best years of his life in this "hateful desert land," all conveyed in a succession of short but striking word-pictures. It must be confessed, however, that Professor Ross's verse is rather unequal; if at times it rises to flights of real beauty (as, for instance, in the pathetic lines on "The Indian Mother"), at others it sinks almost to the level of the commonplace. His writing, nevertheless, shows that he has the true poetic feeling, together with a considerable facility and power of expression, though, perhaps, it is unfortunate that his metre is occasionally curiously reminiscent of Tennyson. This, however, is a small matter. Professor Ross is to be congratulated upon a very charming collection of poems, which are especially interesting as the musings of a man who has done memorable work in a different sphere. They are a proof, if such were needed, that there is no incompatibility between poetry and science.

NOTES ON BOOKS.

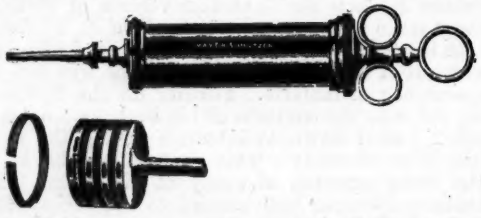
UNDER the title *Maternity Primer*,[8] Dr. BARBOUR, Physician to the Edinburgh Royal Maternity Hospital, publishes by request a series of introductory talks for nurses commencing their midwifery training, in which he endeavours to put in simpler language than usual the essential facts of midwifery and the midwifery nurse's duties. The attempt is on the whole successful, though probably less so in type than in talk, but there are one or two points where one would draw the line short of Dr. Barbour's, as, for example, the use of corrosive sublimate for uterine douching or the administration of alcohol in puerperal infection, which might well be left to a later period for discussion. The principles underlying the treatment of haemorrhage are capable of still simpler statement than Dr. Barbour gives, and the dangers of plugging the vagina as a method seem hardly sufficiently emphasized. As a whole, however, the book is a welcome attempt to get the junior nurse into the way of putting into her work the imagination by which alone the patient can become for her transparent.

[8] *Maternity Primer*. By A. H. F. Barbour, M.D., LL.D. Edinburgh. 1911. (Pp. 165. 1s.)

MEDICAL AND SURGICAL APPLIANCES.

An Improved Syringe.

MR. GRAHAM SIMPSON, F.R.C.S. (Sheffield), writes: In the ordinary metal syringe, such as is used for washing out the bladder, the piston after a time becomes worn, and no longer accurately fits the barrel of the syringe; the syringe is, therefore, no longer air-tight and has to be discarded. To overcome this I have had a syringe made with a piston on the principle of that used in the motor car. The piston fits the barrel of the syringe only loosely, and is made air-tight by the addition of three split metal rings, which are sprung on the piston and fit into three



corresponding grooves. When these rings become worn they can be replaced at a small cost (3s. 6d.), and the syringe is then once more air-tight. I have used a syringe of this kind for washing out the bladder in cases of cystoscopy during the last twelve months, and have found it very satisfactory. Messrs. Meyer and Meltzer have made the syringe for me, and are now placing it on the market in three sizes—2 oz., 3 oz., and 4 oz. They would be suitable also for washing out the external meatus of the ear, as they are strongly made, and give a powerful stream. The two diagrams show: (1) The syringe; (2) the piston with its piston rings seen in section.

ELECTION OF DIRECT REPRESENTATIVE.

THE last day for the receipt of nomination papers for the election of a Direct Representative of England and Wales on the General Medical Council in the vacancy caused by the regretted death of Dr. McManus is this day, Saturday, April 29th. It would appear that there are to be four candidates: Dr. J. A. Macdonald, Chairman of Council of the British Medical Association; Mr. George Jackson, F.R.C.S., who served on the General Medical Council for the term 1902–7; Dr. Lawrence, M.O.H. Edmonton; and Dr. Hawkyard, President of the Leeds and District Medical Practitioners' Association.

We have received the following information with regard to the candidates:

DR. J. A. MACDONALD.

The address of Dr. Macdonald is published in the advertisement columns of this week (p. 10), and a letter commending his candidature, signed by the Chairman of the Representative Meetings (Dr. E. J. Maclean), and the President of the Metropolitan Counties Branch (Dr. Lauriston E. Shaw), was published last week (p 964). Dr. Macdonald has held many offices in the British Medical Association: he was a member and afterwards the Chairman of the Medico-Political Committee, and Chairman of the Representative Body; he is now Chairman of the Council. The letter to which we refer points out that he has during his tenure of these offices added to his knowledge of the disabilities from which the profession at present suffers, and the reforms needed in various directions which he had gained during his career as a general practitioner.

DR. HAWKYARD.

The address issued by Dr. Hawkyard, of Leeds, will be found in our advertisement columns. We have also received the following letter with regard to Dr. Hawkyard's candidature:

Sir,—May we, through the medium of your columns, commend to our fellow practitioners the candidature of Dr. Hawkyard for the vacant seat on the General Medical Council?

Dr. Hawkyard has been President of the Leeds and District Medical Practitioners' Association since its foundation, and has done a very considerable amount of useful work for the medical profession of Leeds through this body.

His experience as a general practitioner has brought him into contact with all kinds of practice, including clubs, Poor Law, and other contract work, and so renders him capable of appreciating the needs and difficulties of all classes of medical men. He is also a man of wide experience, with a comprehensive knowledge of public life, having served on the Leeds City Council and Board of Guardians for many years. He is at present a magistrate of the city, and has been called to the Bar. His practical common sense, decided grasp of the requirements of the general practitioner, sound judgement, and firm convictions would render him a great acquisition on the Council to all practising medical men.—We are, Sir, yours faithfully,

E. ALLAN WILSON,
H. DE C. WOODCOCK,
Honorary Secretaries, Leeds and District Medical Practitioners' Association.

April 25th.

DR. S. C. LAWRENCE.

The address issued by Dr. Lawrence, Medical Officer of Health for Edmonton, is published in our advertisement columns. As will be seen, those who have invited Dr. Lawrence to come forward lay stress upon the work he has done as Honorary Secretary and member of the executive of the Society of Members of the Royal College of Surgeons of England, and as Honorary Secretary of the Home Counties Branch, and member of the council of the Society of Medical Officers of Health. As a part-time medical officer of health living in a suburb of London, Dr. Lawrence states that he is in a position to give the necessary time for regular attendance at meetings of the Council and its committees.

MR. GEORGE JACKSON.

Mr. Jackson's address was published in the advertisement pages of the BRITISH MEDICAL JOURNAL of April 22nd, and in the same issue a letter commending his candidature from Mr. George Brown, who was at one time his colleague on the General Medical Council, will be found.

COLONIAL AND FOREIGN SYSTEMS OF POOR LAW RELIEF.

[FIRST ARTICLE.]

AT an early stage in its proceedings the Royal Commission on the Poor Laws decided to obtain information as to the methods of public relief in foreign countries and the colonies, and a large folio Blue Book of 474 pages has recently been published as one of the numerous appendices to the general report of the Commission.

The systems in use in France, Belgium, Germany, Holland, Denmark, Norway, and Sweden, United States, and the colonies of Australia, New Zealand, and Canada, are fully described, and special chapters are devoted to the systems in Paris, Berlin, and Brussels.

In the first place a series of seventeen questions were addressed through the Foreign and Colonial Offices to the various countries referring to the principal features that must characterize any system of public relief such as the right to relief, the existence of civil disabilities attaching to the receipt of relief, the treatment of children, the relief of the able-bodied, and so on. The replies to the questions were so far incomplete that they have been supplemented by an account of the general principles and organization of public relief in the countries named gathered from the legislative enactments and regulations in force in each country, each case being considered from the point of view of (1) the constitution of the relief authority, (2) the principles of relief and the administration of the ordinary indoor and outdoor relief, (3) medical relief, and (4) the relief of children, with statistics to show as far as possible the results of each system.

The last occasion on which official cognizance was taken in this country of foreign systems was in 1872; it was then found that in most countries at that time poor relief was a neglected element, the Poor Laws being indefinite and relief being practically a matter of local charitable concern, with which public policy and government had little to do. Since then social and economic conditions have undergone radical change owing to the growth of trade and the increase of urban populations, and all the countries have totally remodelled their systems. But in spite of great legislative activity there is much that is still unsatisfactory. In Europe, for instance, the commune is still the area for relief purposes, with the result that in country districts relief, especially institutional and medical, is almost everywhere deficient. Again, a central authority with adequate power of inspection and control does not exist in most European countries, with the result that there is little uniformity of administration, and the only motive to efficiency is local opinion and local initiative. There is, however, a marked tendency to spread the burden of relief over wider areas, a tendency taking the form of grants in aid from the county or the State; as a consequence the county or State now possesses more or less influence over local bodies, while in many cases certain branches of assistance, such as the care of the insane, the deaf, and the blind, and in some cases the provision of medical relief and institutional relief for the aged and infirm, are taken over entirely by the central authorities. Parallel with schemes of reform of public assistance there is evidence of a widespread feeling in favour of better organization of charity and the co-ordination of charity with public relief. Specially to be noticed is the great attention that is being paid in most countries to the preventive side of public assistance, which aims at assisting those who are within the range of poor relief to secure immunity by insurance.

Classification of Systems.

An attempt is made to classify the systems of poor relief in various countries under two main heads:

1. Those in which a public obligation to provide relief is legally recognized, involving a territorial organization with definite public authorities for the purpose; and
2. Those in which poor relief is essentially optional and occasional, not obligatory or universal.

Applying this principle of division, it is shown that in the first-named group Germany, Denmark, Norway, Sweden, part of Australia, part of Switzerland, the United States, New Zealand, and parts of Canada, such as Nova Scotia and New Brunswick, are to be classed with the United Kingdom as States that recognize a public obligation to provide poor relief at the cost of the State. On the other hand, France, Belgium, Italy, Holland, Australia (with perhaps the exception of Western Australia) and the older parts of Canada, such as Quebec, recognize no general obligation to provide public poor relief, but have a system of optional or quasi-charitable relief. It is very noticeable that in France and Australia especially, there are signs of a gradual breakdown of the system of charity, and that the principle of public obligation is now recognized as regards particular classes of the poor, such as the children and the aged. There is a growing tendency to obliteration of the distinction between the two groups of States.

In France, until within recent years, poor relief has been a matter of semi-officialized charity; before the year 1893 indoor relief was administered by a local committee in any commune that was fortunate to possess a hospital or almshouse, and outdoor relief by a similar committee in communes which chose to form such a committee. The committees depended mostly on charitable gifts or endowments with the proceeds of some small local dues, and perhaps some subsidies from the communes. But since 1893 France has set itself to create a system of official instead of semi-charitable relief, and has superimposed on the old system a new organization in which civil authorities of the commune and department bear the chief part, while the State provides from one-third to one-fifth of the cost, the object being to guarantee relief to persons who are physically or mentally incapable of providing for themselves. Effect has been given to this by enactments providing relief to (1) the sick poor, (2) the aged poor over 70, (3) the physically incapacitated of any age, and (4) orphan or deserted children. The old and the new systems, however, still remain side by side. In 1910 the French Government passed through the Senate a law providing for State-aided insurance against old age and invalidity as a sort of supplement to the law of 1905 for free relief on these grounds.

In some respects Italy has closely followed the lead of France as far as circumstances allow, but in Belgium public opinion has so far been unable to effect any material change.

In the States of Australia for the most part indigent persons, apart from particular forms of indigence such as old age, have no claim to relief, as there is no body in a position to administer it, and dependence is placed on charity and on benevolent societies, which are, however, liberally assisted by subsidies from the State; in return the State exercises a certain amount of inspection. In despair of adequate relief from charity the States generally undertake one or more forms of direct State relief, such as old age pensions, provision for the insane poor, for children of the destitute or criminal, and for the unemployed. The greatest advance has been made in Western Australia, where charity has become a subsidiary agent and the State is the relief authority for the whole State.

In Canada the provision of poor relief is in the hands of the several provinces, and thus we find that, while in Quebec the old French system of charitable relief is continued, mainly under ecclesiastical control and subsidized by the province, on the other hand Nova Scotia and New Brunswick have recognized a public obligation of relief, and have provided a local organization for the purpose.

In New Zealand since 1885 poor relief has been a matter of public local responsibility, the country being divided into suitable districts, each with its own district board. The State contributes liberally to the cost, and further provides a generous system of old age pensions.

Turning to the other countries where public obligation is more fully recognized, Germany has established "relief associations" throughout the empire, the cost being defrayed from local taxation with some assistance from charitable endowments, but without State grant. It appears that outdoor relief considerably preponderates over indoor relief, and that in the country districts the administration is somewhat perfunctory. In the towns poor relief has received more attention, and the Elberfeld system is being increasingly adopted.

In Denmark the councils of communes and towns are formally the authorities for poor relief, but they delegate their duties to officials or committees of their body and receive some monetary grants from the counties, the latter assuming a large part of the burden for medical relief and for the care of the insane, and also providing penal workhouses for the able-bodied and vagrants. The State does not concern itself directly with ordinary relief, but has provided certain means of public assistance which are technically not poor relief—such as old age pensions and certain funds which are designed to assist the worthy poor and prevent them coming on the Poor Law. The State also contributes to the cost of medical relief, and has set up a form of sickness insurance which is carried out by local sick clubs. Membership of these clubs, which is purely voluntary, carries with it a right to medical attendance; the State adds a proportionate amount to the members' contributions, to which the local authorities also contribute.

In Norway poor relief is organized on a communal basis, the relief committee being dependent for supplies on the local council, and acting in accordance with rules laid down or approved by the council. The parish bears the cost of ordinary relief, but the capital cost for the care of the insane and for medical relief is borne by the county, the parish being charged only with the cost of maintenance of its own cases. Sweden generally resembles Norway, but lays especial emphasis on institutional relief, each commune being encouraged, singly or in combination, to provide relief in this form.

In Switzerland the Federal Government leaves relief to the several cantons, the only Federal laws that affect the matter being one that provides for freedom of intercantonal migration and settlement, and another requiring medical relief to be provided for non-settled poor by the canton of residence. Most cantons accept the obligation to provide relief, though some limit it to natives by birth or adoption. Poorhouses are provided by the larger communes, but outdoor relief is the usual form, and in some places the system of billeting paupers on the well-to-do inhabitants is still retained.

The United States recognizes the principle of local obligation, and makes either (*a*) the parish (town or city) or (*b*) the county responsible for the relief of its own poor; the latter is the more general plan, the objective being to provide more adequately for institutional relief than is possible under the parish system. In the more advanced states, such as New York and Massachusetts, institutional relief is the principal form, outdoor relief being restricted, though in other states outdoor relief is predominant. A considerable amount of classification of institutions is aimed at. In many of the states local relief is very badly organized, the local authority being responsible to no central authority, but the more advanced states have within the past few years formed central departments of State known as State Boards of Charities, with power to inspect and enforce reform of local institutions and promote Poor Law legislation; these boards have effected much improvement in Poor Law relief.

The Right to Relief.

It is characteristic of modern Poor Law legislation that the necessitous should have a statutory claim for public relief. This is theoretically the case even in some of the countries where relief is based on charity, though in the absence of proper machinery it may sometimes be illusory. The right to relief is conditional on a certain qualifying degree of poverty which is often not clearly defined. In Germany and Scandinavia the relief authority is legally entitled to afford only what is necessary to maintain life, but in France the laws providing for obligatory relief to the aged, infirm, and sick have deliberately given up the old word "indigent" for the milder words *necessiteux* or *privé de resources*. The official circular on the Free Medical Relief Law of 1893 pointed out that the latter term implies not general destitution, but a sufficient degree of poverty to need help in a particular emergency or under particular conditions, and the French law of relief to the aged and infirm poor requires each commune to fix a standard minimum of the cost of living, and provides that relief to this extent only is to be allowed. This minimum varies in different places, but in Paris it is fixed at 24s. a month. Many German towns, too, have established an *Existenz-minimum* as a standard scale of outdoor relief. Only in rare cases does the right to relief approximate to a legal right, and an appeal such as is allowed under the Scottish Poor Law to the Sheriff's court is exceptional. The German and Swedish Poor Laws allow appeal by an applicant for relief to the superior civil authority in the scheme of local government, and the latter may require the relief authority to grant relief, but this is rather in the nature of a complaint to a superior officer against the administration of an inferior officer. The reformed French Poor Law has in the case of relief to the aged and infirm allowed appeal to a cantonal committee, and again from this committee to a specially constituted State committee; the same right exists under the law of free medical relief. The justification for this lies in the fact that the relief authority of first instance does not bear the whole cost, since more than half of it is borne by the State and the department. The indirect sanction which is given to the right of relief under the English law, in so far as the responsibility for fatal consequences occurring after refusal of relief falls on the relieving officer, does not appear to be found in the foreign systems.

Conditions Attaching to Relief.

The various conditions precedent or consequent to the grant of relief as they occur in the various countries are next described, such as

(*a*) Settlement;
(*b*) Liability of relatives to contribute;
(*c*) Liability of the person to repay the cost;
(*d*) Imposition of civil disabilities.

(*a*) As regards settlement, there is a distinct tendency to shorten the period necessary for the acquisition of a settlement, and in practice it has been very largely reduced. For instance, all the systems now recognize the obligation on the part of a relief authority in whose area a case of destitution occurs to grant relief in the first instance, even if the fact of non-settlement is known, and there is a tendency to restrict the right to recover the cost from the district of settlement. In Germany relief to servants and persons in employment cannot be recovered from their place of settlement for the first twenty-six weeks of relief, and in Denmark the cost of medical attendance is not recoverable from the place of settlement. In other cases, such as New York, the local relief authority can throw the burden of paupers whose settlement cannot be ascertained on an authority of a wider area, such as the county or State.

(*b*) The liability of relatives within a specified degree of relationship to contribute to the cost of relief is practically universal in Europe, except in certain of the Swiss cantons, while in some parts of Australia there is no provision as regards enforcing the liability of relatives, except in the matter of State relief—for instance, in the State-aided asylums for the aged and infirm.

(*c*) In the same way the right of recovery from the person relieved is also fairly general, though it does not obtain in Belgium and Australia, and is of doubtful legality in Germany.

(*d*) Of the civil disabilities attaching to relief the commonest are disfranchisement and incapacity for election on public bodies. Such disabilities exist in many of the States where poor relief is mainly charitable. In Italy the penalties only attach to paupers in institutions and to persons "habitually in receipt of relief," and in Germany, since 1909, disfranchisement has been abolished in the case of medical relief, of relief given to assist in the upbringing of children, and in cases where relief has been refunded. On the other hand, neither France nor Belgium thus penalize the recipient of relief, nor do the States of the American Union, except in a few instances; the Australian States disfranchise as regards local elections, but allow the power to retain a vote for the Federal Parliament. Penalties other than disfranchisement are rare, but in certain states of Germany a person in receipt of relief cannot be empanelled on a jury, and in Denmark a man cannot marry for five years after receiving relief, unless the cost of it has been refunded, without the consent of the communal council.

In a further article it is proposed to deal with questions relating to the Poor Law areas, co-operation of the Poor Law with various voluntary agencies, and especially the systems of medical relief in foreign countries and the colonies.

REPORT OF THE REGISTRAR-GENERAL FOR SCOTLAND.

THE fifty-sixth report regarding the births, deaths, and marriages registered in Scotland and the forty-sixth annual report on vaccination have just been issued. The former relates to 1910; the latter to 1909.

Introduction.

The birth-rate of Scotland for the year is the lowest recorded in these reports—that is, since 1855; the marriage-rate is lower than that of all previous years since 1855, that of 1909 excepted; the death-rate is the lowest on record—that also is since 1855, and this is the first year in which the death-rate of Scotland has fallen below 15 per 1,000. For the first time the death rate in the principal town registration districts is less than that in the mainland rural registration districts. In the early years of registration that of the former was as much as 50 per cent. greater than that of the latter. The year has been without serious epidemic, an outbreak of measles excepted. The epidemic of cerebro-spinal meningitis which began in 1906 has now practically subsided. The annual death-rate from phthisis in the eight principal towns shows a decrease, in Edinburgh and Leith this decrease during the last ten years has amounted to over 45 per cent. The vaccination returns show that the use of the power of exemption from vaccination by reason of the conscientious objection of the parents has been largely taken advantage of, with the result that the proportion of children remaining vaccinated is largely increased. It is estimated that the passing of the Vaccination (Scotland) Act, 1907, has resulted in adding 45,000 unvaccinated children to the population.

Population.

The estimated population in the middle of 1910 is 4,929,251 (2,411 857 males and 2,517,394 females), which, it near the truth, gives an increase of 51,603 (26,950 males and 24,653 females). The natural increase of the population, the excess of births over deaths, between the middle of 1909 and the middle of 1910 amounted to 51,927, but that figure is almost certainly in excess of the true increase of population, it being almost a certainty that there has been more emigration from the country than immigration into the country during the period. Of the estimated population, 46 5 per cent. live in the principal town registration districts; 12.6 per cent. in the large town districts, and 20.0 per cent. in the small town districts. The principal town districts are those towns which at the 1901 census had populations of over 30,000; the large town districts are registration districts containing towns with populations in 1901 of between 10,000 and 30,000; the small town districts have populations of 2,000 to 10,000. As illustrating the necessity for great reserve in accepting estimates of population, it may be noted that the estimate for Edinburgh in the middle of 1910 was 360,276. The census of April 1st, 1911, shows the population to be 320,239, an increase of only 2 780 in ten years, as against the estimated increase of 40,037 to the middle of 1910.

Births.

These numbered 123 000 (63,090 males and 60,190 females). The maximum number of births registered in Scotland in any one year was in 1903, when the number was 133,525. Since that year the diminution has been a decided one, especially during the last two years. Comparing 1903 and 1910, the births are 7.1 per cent. fewer in the latter year. The birth-rate of the year was 25.16 per 1,000, the lowest since 1855. The previous lowest was that of 1909, which was 26.36. In the principal towns the lowest birth-rate, 19.6, was in Edinburgh. In Scotland 6.85 per cent. of the children born were illegitimate.

Deaths.

The total number of deaths during 1910 was 72,245 (36,070 male and 36,175 female), 5,178 less than the average number registered during the preceding ten years, and the smallest for any year since 1896. Of them 46.1 per cent. were in the principal town districts. The death-rate of the year was 14.66 per 1,000 of the estimated population, 2.0 less than the mean of the death-rates of the preceding ten years. It is the lowest annual death-rate yet recorded, the previous lowest being that of 1909, which was 15.29. From 1855 to 1880, with the exception of 1856, the national death-rate was constantly over 20 per 1,000; in 1881 it was for the first time below 20, in 1886 for the first time below 19, in 1894 for the first time below 18, in 1896 for the first time below 17, in 1905 for the first time below 16, and in 1910 for the first time below 15. The death-rates of Glasgow, Edinburgh, Aberdeen, Paisley, Leith, Govan, Partick, Kirkcaldy, and Hamilton are the lowest yet recorded for those towns.

Marriages.

These were 30 866 in 1910, and were 1,111 fewer than the average number during the preceding ten years. Of them 52.7 per cent. were registered in the principal town districts. The marriage-rate of the year is 6 26, and is 0 62 less than the mean of the rates of the preceding ten years.

Causes of Death in Eight of the Principal Towns.

As fully 38 per cent. of the population of Scotland live in either Glasgow, Edinburgh, Dundee, Aberdeen, Paisley, Leith, Greenock, or Perth, it is reasonable to assume that the causes of death found to be prevalent in them during the year are a fairly good indication of the causes of death generally prevalent in the country during the period. The aggregate birth rate of the eight towns for the year was 24.0 per 1,000, the marriage-rate 7 4 per 1,000, and the death-rate 15.1 per 1,000. The birth and death rates are the lowest yet recorded. Deaths in the eight towns of children of less than 1 year old numbered 5 559, births in the towns numbered 45,482, and thus the infantile mortality-rate amounted to 122 per 1,000 births. Deaths of children of less than 5 years old numbered 9,317, and constituted 32 7 per cent. of the total, or 0.5 less than in the previous year. Deaths from the principal infectious diseases were equal to a death-rate of 129 per 100,000, by far the greatest number being from measles (60 per 100 000), diphtheria and whooping-cough taking the second and third place with 23 per 100,000 and 22 per 100,000 respectively. The death-rate from the principal infectious diseases ranged from 263 per 100,000 in Dundee to 79 in Edinburgh. No deaths from small-pox were registered in the eight towns during the year. The death-rate from influenza was 3 per 100,000, from enteric fever 5 per 100,000, from diarrhœa 62 per 100,000, from tuberculous disease 184 per 100,000, and from phthisis 116 per 100,000 (lowest in Edinburgh). In 1901 the aggregate death rate from tuberculosis was 264 per 100,000, and from phthisis 179 per 100 000; compared with those figures the death-rate from all tuberculous disease in 1910 shows a decline of 30.3 per cent., and that from phthisis one of 35.2 per cent. The death-rate from all forms of tuberculous disease in each of the towns, with the exception of Dundee, shows a marked decline, varying from 43.7 per cent. in Edinburgh and 37.1 in Leith to 9.2 in Greenock. In Dundee the death rate from tubercle is the same in 1910 as in 1901. The Edinburgh death-rate from phthisis in 1910 is found to be 46.4 per cent. less than in 1901, in Leith 45.3 per cent. less, in Glasgow 34.1 per cent. less, in Paisley 33.7 per cent. less, in Aberdeen 32.4 per cent. less, in Perth 21.1 per cent. less, in Greenock 19.6 per cent. less, and in Dundee 11.6 per cent. less. In 1906 there were 156 deaths from cerebro-spinal meningitis, and in 1910 there were 39.

The annual death-rate from malignant disease was 107 per 100,000, from pneumonia 145, from bronchitis 104, from puerperal septic conditions and from diseases and accidents of pregnancy and childbirth 5.9 per 1,000 births (ranging from 7.5 in Edinburgh to 3.2 in Greenock), the death-rate from violence was 56 per 100 000, the greater part from accident. In each 10,000 deaths from specified causes registered in the eight towns during the year there were 989 from heart disease, 859 from infective diseases, 757 from diseases of the respiratory organs (excluding those from pneumonia), 716 from diseases of the digestive system (exclusive of those certified as due to diarrhœa), 703 from diseases of the blood vessels (including apoplexies), 478 from diseases of the nervous system (apoplexies excluded), 435 from diseases of the urinary organs, and deaths from tuberculosis amounted to 1,221 per 10,000 specified causes, from phthisis to 768, from pneumonia to 964, from bronchitis to 688, from malignant disease to 712, from apoplexy to 574, and from diarrhœas (including those from enteritis and gastro-enteritis), to 412. Among those whose deaths were registered in the eight towns during the

year there were 41 males and 110 females aged 90 years and upwards. The oldest of the men was a commercial traveller, whose age was registered as 100, and the oldest of the women were three widows aged 100, 103, and 105.

Weather and its Influence on Mortality.

The mean temperature of the year in Scotland, as based on observations made at over seventy stations, was 46.2° F., which is 0.8° above that of the previous year, the same as the mean for the preceding ten years. The average rainfall, or, more strictly, the mean of the rainfalls observed at these seventy stations was 41.36 in., which is 2.27 in. more than in the previous year, and 1.20 more than the mean of the rainfalls of the preceding ten years. These weather conditions—a normal mean temperature and a somewhat high average rainfall—have been accompanied by the lowest national death rate on record, a rate which is 0.6 less than that of the previous year, 2.0 less than the mean of the death-rates of the preceding ten years, and 3.0 less than that of the preceding twenty years. The mean temperature in the eight principal towns was 47.2°, which is 0.9° more than that of the previous year, and 0.1° more than the mean for the preceding ten years, but 0.1° below the mean for the preceding twenty years. The average rainfall in these towns during the year was 37.31 in., which is 0.96 more than in the previous year, 1.48 more than the mean of the preceding ten years, and 1.83 more than the mean of the preceding twenty years. These weather conditions in the eight towns have been accompanied by the lowest aggregate death-rate on record, it being 1.4 less than that of the previous year, 3.0 less than the mean of the death-rates of the preceding ten years and 3.4 less than those of the preceding twenty years. Among the causes of death in the eight towns which show an increase as compared with the previous year, when the weather was colder and drier, are measles and diarrhoeas, and among those that show a decrease are whooping-cough, pneumonia, bronchitis, and phthisis. Deaths of children under 5 years show a decrease of 893, and those of persons of over 60 a decrease of 579.

Vaccination.

The births of 128,720 living children were recorded in the registers during the year 1909. Of these, 84,035 are reported to have been successfully vaccinated, 11,594 are reported to have died before the time of compulsory vaccination, leaving 33,091 as the number of children for whom certificates of successful vaccination were not produced. Compared with the corresponding numbers of the previous year, children successfully vaccinated are 7,159 fewer, those dying before the time of compulsory vaccination are 1,095 fewer, but those for whom no certificates of successful vaccination were received are 5,568 more. Comparison with the corresponding numbers of the year 1905, the last year before the Vaccination (Scotland) Act, 1907, was effective, shows the number successfully vaccinated to be 27,893 fewer, those dying before the time of compulsory vaccination to be 574 fewer, but those not reported to have been successfully vaccinated to be 25,734 more. In 1905 the percentage of the total children successfully vaccinated was 85.15, in 1909 it was 65.29. The amount of certified constitutional insusceptibility varies widely. In two counties no such children were reported, and whereas in Peebles 1 child in 62 was certified to be insusceptible, in Greenock 1 in 344 was so certified. In the registration district of Auchterhouse, 1 in 5 was certified. The working of the Vaccination (Scotland) Act, 1907, is thus responsible for adding fully 25,000 unvaccinated children to the population during 1909, and for adding no less than 45,000 in the course of two years. The district examiners of registers of Scotland all comment on this serious state of affairs. Two notes may be quoted: "The growing number of unvaccinated children cannot well be regarded with anything but the gravest concern." "Too large a proportion of those who take advantage of the provisions of the Act belong to a class who are not generally in other respects too solicitous regarding the health of their children, and who, on account of the indifferent housing and sanitary conditions under which many of them live, would be liable to suffer the most severely in the event of an epidemic."

CANCER RESEARCH.

THE official report of Dr. Bashford, delegate of the British Government, of the Conference on Cancer held in Paris last October has recently been issued as a White Paper. An account of the proceedings was published in the BRITISH MEDICAL JOURNAL of October 22nd, 1910. That account may be supplemented by reference to a few points set forth in the report. In the opening discussion on histology and the histological diagnosis of cancer, stress was laid upon the inconvenience caused by the employment in different countries of dissimilar names for identical cancerous lesions, and by the frequent employment of the same terms in different senses. In the present state of knowledge, therefore, it was impossible to find a complete classification of cancers which would meet with international acceptance. As a result of the discussion the conference adopted a resolution appointing a commission representing the different countries for the purpose of drawing up an international nomenclature to be submitted to the next meeting of the conference in 1913. This was the only resolution adopted by the conference. A proposal to empower a similar commission to compile comparable international statistics of cancer by means of the issue of inquiry forms to members of the medical profession met with much adverse criticism and was negatived.

A discussion on the duration of cancer of the digestive tract brought out the great frequency with which the first symptoms appear and the diagnosis is made only after a prolonged latent period, when no definite signs of the disease are presented. Several opinions were expressed as to the best means of educating the public, and also the profession, in the early symptomatology of cancer.

Referring to discussions on the value of adjuvants to surgical treatment, such as fulguration, α rays, and radium, Dr. Bashford says the consensus of opinion was against the employment of fulguration, while no definite conclusion was arrived at as to the therapeutic value of radium. The general outcome of the debate seems to have been that treatment by serums and vaccines is not to be relied upon.

Another subject discussed was the resistance which can be induced to the implantation and progressive growth of cancer in animals. The phenomena were interpreted to mean that fresh animals react against the implantation of cancer and set up an active resistance to its growth in them. In regard to the causation of cancer, a mass of evidence was presented supporting the view that cancerous tissue is really a biological alteration of the tissue proper to the individual attacked by the disease, and that its peculiar properties may be explained without assuming the intervention of extraneous agencies, such as a hypothetical cancer virus. Dr. Bashford sums up the results of the conference as follows:

"Reviewed as a whole, the conference must be pronounced to have been of value. In my opinion, should another international conference take place, it will be held under much more favourable auspices both as regards working arrangements and the selection of subjects for discussion and action, notwithstanding the fact that knowledge of cancer is still so vague or ambiguous as to have prevented unanimity, or even a basis for discussion, from being obtained on many points at the conference in Paris. In particular the delegates were divided upon such fundamental matters as the etiology of cancer, and on what is and what is not a legitimate application of statistical methods to the investigation of the frequency of cancer. Whilst some delegates of high standing advocated its parasitic or infectious nature, others of equal authority strongly opposed such a view. No progress was made towards compiling comparable international statistics of the incidence of cancer; nevertheless, in my opinion, the discussion of the plan proposed was a pressing need, of which the importance is but emphasized by the failure of the project to secure the approval of the delegates. Only good can result from discarding those fallacious methods by which attempts have been made to arrive at a speedy elucidation of the significance attaching to variations in the numbers of the deaths recorded from cancer in different countries at the same time, and in the same geographical area, large or small, at different times. These methods have been widely

adopted in various European countries, and consist in taking a 'cancer census' or enumeration of persons ill of cancer on a particular date, by means of inquiry forms filled up voluntarily by members of the medical profession. The decision was arrived at in 1902–3 to recommend that such a method of investigation should not be adopted in this country. The wisdom of that decision would appear to have been endorsed by the attitude of the conference towards the project laid before the delegates for the compilation of international data of a similar kind, more particularly because many of the delegates also recognized, what has often been urged in vain in the past—namely, that the statistics of cancer cannot be treated apart. They are inseparably bound up with vital and mortality statistics as a whole, and an improvement in the value of the statistics of cancer, for the purposes of comparisons between different countries, can follow only from raising the general level of all the vital and mortality statistics of different countries. Such considerations and others—for example, that a 'cancer census,' far from avoiding the fallacies inherent in all statistics of mortality from cancer, but exaggerates them—apparently influenced the delegates. The attitude of the conference towards the statistical investigation of cancer marks a distinct advance towards what accurate statisticians have long recognized as the only sound lines of investigation; but it must also be pointed out that under exceptional conditions a 'cancer census' may possess advantages for special purposes. So long as so much divergence of opinion, due to continued ignorance, prevails, it is obviously hopeless to attempt to devise rational measures, and futile to promote an international crusade for the prevention or reduction of the ravages of cancer, along the lines which are meeting with worldwide acceptance in the case of tuberculosis and leprosy."

STATE INVALIDITY AND SICKNESS INSURANCE.

THE NORTHERN COLLIERIES' SCHEME.

DR. HENRY E. GOUGH (Northwich) sends a letter in which he questions the general applicability of the scheme of provident insurance in force among the miners of Durham and Northumberland described by Dr. J. Charles of Stanley in the JOURNAL of April 15th, page 887. Dr. Gough directs his criticism particularly to the following points:

1. *Finance.*—Dr. Gough points out that the scheme takes no account of those who are out of employment and therefore contribute nothing, of strikes, and of chronic invalids incapable of employment. He considers that the arrangements are such that an unlimited and indefinite amount of work is exacted from the doctor for a definite and apparently strictly limited amount of pay.

2. *Simplicity of Working.*—Dr. Gough considers that the simplicity disappears when the direct relations between the two contractors is complicated by two other parties in the undertaking, the employers and the State, who will demand the right to inspect and to have a share in the control of the funds. He contends also that the extras will all have to be checked and supervised, and that in these extras must be included the cost of travelling. He concludes under this head that all the machinery necessary to scrutinize all the work done will be needed, and that nothing more would be needed, even if the payment were made per attendance.

3. *Elasticity and Freedom.*—Dr. Gough says that the essence of the scheme seems to be absolute inelasticity of payment, whereas the work done may extend indefinitely. As to freedom, he says that whoever pays will rightly demand control. While acknowledging that the incentive given to prevention is a good point, he thinks that the sick will prefer a man who concentrates on a cure, and the scheme is for the sick. In reply to the contention that colliery doctors are superior to the medical officer of health in zeal for sanitation, he says that it seems that the county medical officer for Durham does not endorse this claim in his annual report, in which he specially mentions colliery villages for their bad sanitation.

In conclusion, he asks general practitioners to consider whether in the article he criticizes a too rosy and enthusiastic outlook has not been taken by an exceptionally fortunate colliery doctor judging from a *clientèle* far superior to the average.

Dr. Herbert P. Taylor (Bradford-on-Avon) asks for further detailed information on the following points:

1. The payments to the doctor are stopped from the workman's wages. What happens, when there is a strike, or the workman is ill, and there are no wages? Apparently, when there is a prolonged strike (with possible poverty and extra sickness among the workmen and their dependents), or a severe epidemic of disease, the extra worked doctors' income would diminish almost to vanishing point.

2. The married men pay 19s. 6d. (less 5 per cent. collection fee) to their doctor. Does this amount cover the attendance on the wife and children, and the provision of medicine and dressings? Taking a family of father, mother, and three children, this gives a fee of 3s. 8½d. (nearly) per annum each.

3. Among miners there are men who do special work, whose wages average much more than 30s. per week; are these included in the scheme at the same rate? If not, how are these men's contributions arranged?

4. Dr. Charles tells us that this system has been working for years. Is it fair, taking into consideration the increased cost of medical education and the increased time, skill, and labour needed for accurate diagnosis, that medical men should be now receiving the same fees for contract work that their grandfathers did? Dr. Charles also tells us that in this sort of practice there is not much scope for the use of modern diagnostic instruments of precision or for bacteriological or electro-therapeutics. Is it satisfactory to the Durham miner to know that he is not getting the best possible treatment for his ailments? If cases are sent to the nearest infirmary, who pays the men who do treat them, and who pays the cost of the miners travelling back and fore?

SCIENCE NOTES.

THE Board of Agriculture and Fisheries has instructed its scientific advisers to investigate the causes and characteristics of the disease among bees which has now broken out in many counties, and which originally made its appearance in the Isle of Wight. The board would be glad to receive communications from beekeepers whose bees have been affected by the disease, and who would be willing to supply information likely to be of service in connexion with the investigations. A statement of the points upon which it is desired to obtain particulars will be sent on application. Information as to new outbreaks in districts only recently infected is especially desired. In certain cases specimens of diseased bees will be required, and correspondents are therefore requested to say whether they could send bees for examination. Bees should not be sent to the board until asked for. Communications should be addressed to the Secretary, Board of Agriculture and Fisheries, 4, Whitehall Place, London, S.W.

The third annual report of the governing body of the Imperial College of Science and Technology contains a short account of the work done and the changes which have occurred up to the end of July, 1910. Considerable extensions have been made during the year, especially in the department of mining and metallurgy. Several buildings, including a students' union, commenced in the course of the year, are now completed. In addition, adequate accommodation for the administrative work of the college has now been provided. Reference must also be made to the generosity of the Bessemer Memorial Committee in providing £10,000 towards the equipment of the mining and metallurgical laboratories of the college. It is proposed to erect a statue of the late Sir Henry Bessemer in the laboratory. Advance is reported in all the departments of the college, and we note with particular interest the provisions made for the biological sciences and for aeronautics. To the report are attached eight appendices, setting forth the names of the governors, members of committee, and staff, together with the courses provided, the research work done, and the number of students enrolled.

THE forty-fourth annual meeting of the Canadian Medical Association will be held at Montreal in the first week of June of the present year, immediately after the official opening of the new McGill medical buildings.

LITERARY NOTES.

The *Indian Ambulance Gazette*, the first number of which appeared in January, is the official organ of the Indian Branch of the St. John Ambulance Association, of which the Viceroy is President. The Chairman of the Indian Branch Committee is the Commander-in-Chief; the Honorary Secretary is Major R. J. Blackham, R.A.M.C., Knight of Grace, and Barrister-at-Law. Major Blackham is one of the editors, the other being Mr. Vivian Gabriel, C.V.O. The *Gazette* is to be issued quarterly. In a "Foreword" it is stated that "for years the great bar to the extension of the courses of instruction carried out under the auspices of the association was a lack of information on the subject, as the admirable publications of the London head quarters were not altogether suited to Indian requirements. This difficulty has been removed by the publication of the White Book of the Indian Branch, which is rapidly approaching its third edition in a period of eighteen months, but to supplement the information the committee felt that something more was required." This feeling has found expression in the foundation of the *Indian Ambulance Gazette*, which seems to us likely to be a most useful supplement to the White Book, an account of the second edition of which was given in the British Medical Journal of October 1st, 1910.

We are accustomed to look upon preventive medicine as almost wholly of modern growth. Yet the ancients fully appreciated the value of the precept *Principiis obsta*, and the care of the health as distinct from the care of disease held a prominent place in the teaching of the old physicians. Nor was the importance of baths, dietetics, and other means of preventing disease so much forgotten even in what are called the Dark Ages as is often supposed. Public hygiene was indeed little thought of, but personal hygiene was by no means neglected. An interesting proof of this has recently been afforded by Professor Landouzy, who, at a meeting of the Paris Academy of Medicine held on April 4th, presented a book printed from a medical manuscript of the thirteenth century produced under the direction of Dr. Roger Pépin and himself from the "Manuscrits à Miniature" of the Bibliothèque Nationale and the Bibliothèque de l'Arsenal. The work, he said, is entitled *Le Régime du Corps*, and was written in French by Master Aldebrandin about 1256—that is, more than half a century before the famous *Chirurgie* of Henri de Mondeville. It is, therefore, the oldest French medical work extant. Certain rare documents have enabled MM. Landouzy and Pépin to establish some points in the biography of the author. Master Aldebrandin, a native of Siena, left Tuscany for the Court of Provence, which was a flourishing centre of civilization in the thirteenth century. He was attached as physician to the person of the Countess Beatrix, famous as the most successful match-making dowager in history. All of her four daughters became queens. The eldest married St. Louis; the others married respectively Henry the Third of England, Richard of Cornwall, who was crowned Emperor of Germany in 1257, and Charles of Anjou, King of Sicily. From Provence, Aldebrandin went to the Court of France. Towards the end of his life he is found living in retirement at Troyes in Champagne, where he died in 1287. Professor Landouzy thinks it probable that it was during his stay at Aix in the suite of the Countess of Provence that Aldebrandin composed his book, which he dedicated to his patroness. In addition to its importance for the study of scientific language, the work has a genuine historical and doctrinal interest. Unlike the vast compilations of the Middle Ages, which embraced the whole range of medical science, Aldebrandin's book is entirely devoted to hygiene. In several places the author insists that it is not his purpose to deal with curative medicine (*le maladie delivrer n'est pas son entencions*); his aim is to show how health is to be maintained (*garder le corps en santé et les maladies eskiwer*). He passes in review the daily acts of life—eating, drinking, work, rest, and sleep. Among the hygienic measures which he prescribes are bathing, keeping the bowels open, bleeding, leeches, and cupping. He gives minute directions regarding the hygiene to be observed according to season and climate, and as to clothing, sexual life, the care of infancy, and old age. He gives excellent advice as to puericulture, both from the point of view of the mother and the care of the newborn child. He devotes long chapters to the special hygiene of the principal organs and systems—skin, hair, teeth, stomach, liver, and heart. He has much to say on diet, setting forth the nutritive value of the foodstuffs in common use, and discussing the special properties of cereals, fruits, vegetables, eggs, milk, and condiments. In his book, according to Professor Landouzy, are found in an empiric form the germs of some of the notions which still form the basis of our modern systems of diet. The work is, like all productions of the Middle Ages, a compilation, but for that very reason it is very instructive, as it may be taken to reflect the doctrines of the Arabian School, and the hygienic teachings of Avicenna and Isaac the Israelite. Although resembling the *Regimen Sanitatis* of the School of Salerno, Aldebrandin's book differs from that celebrated work in the manner in which the subject is dealt with. Instead of the dogmatic aphorisms of Salerno he gives minutely explanatory descriptions, and enters into the smallest details. In producing the book, MM Landouzy and Pépin had the advantage of the co-operation of M. Antoine Thomas, Professor of Romance Philology at the Sorbonne, who has contributed a preface. Necessary help is supplied to the student in the form of a very full glossary, which explains obscure and rare terms, and a list of the names of plants and drugs. Aldebrandin may be looked upon as one of the pioneers of preventive medicine, and his book is therefore of special interest.

Another proof of the importance attached to hygiene by enlightened physicians of the Middle Ages is afforded by an announcement made in the *Progrès médical* of April 8th. Dr. Limon, of Besançon, is said to have discovered in the library of that town the manuscript of a work by Guy Paré, a Milanese physician of the fifteenth century. It is entitled the *Régime de Santé*, and treats of the means of preserving health. As a specimen of his teaching some passages are given from a chapter devoted to the hygiene of the mouth, a subject which has come to be regarded as of such vital importance in quite modern times. He says: "To keep the mouth in a healthy state it is well to wash it out before and after a meal with warm water, as this cleanses the mouth and purges the humours of the gums which come down from the head. This prevents foul breath. It is very advisable every day to rub one's teeth in the morning when fasting with a powder composed of cloves, nutmeg, and a spice called spikenard in hypocras." Hypocras, or hippocras, it may be mentioned, was an infusion of spices such as cinnamon or sweet almonds, with a little musk and amber, sweetened with sugar and honey. It was a cordial in great repute in the olden time. Then follows a list of things which make the breath fresh and sweet. Among them are citrons, a confection of musk, aloes bark, cloves, and a number of other things with strange names, which it is difficult to identify. He enumerates a number of things that make the breath foul. Among these is mercury, which he says corrupts the mouth and the saliva; fragments of meat left between the teeth, milky substances, and everything that putrefies even slightly. After eating such things one should carefully wash the mouth and clean the teeth, rubbing them gently with some bark or fruit peel which has bitter and astringent properties. Care should be taken, he says, not to break hard things with the teeth, nor to chew viscous substances, such a dates, confection of honey, and the like. Here Guy Paré condemns in anticipation the eating of sweets, which is too common everywhere, and the chewing of gum, which, as far as we know, is a habit peculiar to America. A too free use of emetics also, we are told, tends to rot the teeth. Cold things should not be eaten, for they freeze and chill the teeth; other things which are harmful to the teeth are milk, pomegranate, leeks, and radishes. The skin of citrons and sage leaves are useful as dentifrices. A prescription of special efficacy contains burnt hartshorn, roses, and other things, of which unhappily we are unable to give the modern equivalents. Before the teeth are rubbed with this powder they should be carefully cleared of all remains of food and foreign substances of every kind. Those, says our author, who are very particular, such as princes and great lords, may rub their teeth with a powder made of pearls, mixed with a very small quantity of fine sugar. This powder, he assures us, is very good, but he is careful to add that it is very dear.

British Medical Journal.

SATURDAY, APRIL 29TH, 1911.

REPORT ON THE REFERENDUM PROPOSALS.

ONE of the objects for which the British Medical Association exists is to bring to bear on political and social problems the influence of the medical profession, and to this end to present to the Legislature or to local municipal bodies the considered opinion of the profession. The Association being in its conception a democracy and not an oligarchy, it becomes the first duty of the Council and Representative Body, and the committees by which they are advised, to ascertain what the opinion of the profession may be on any question involving medical interests which emerge in politics or administration, whether State or municipal. In the discharge of this duty several stages must be observed. In the first the facts are ascertained by the Council or committees, standing or special, and placed before the members in their Divisions in a form and order convenient for their consideration and for the expression of their opinions. In the next stage these opinions must be collated, and the opinion of the profession deduced from them. At this stage there is obviously room for setting out differences of opinion, and mayhap of finding some compromise, for though a theoretical politician may condemn compromise, yet the same man, when called upon to legislate or administer, is soon compelled to realize that by this road only can opposition be conciliated and unanimity reached. Then comes the final stage when the Association through its Representative Body declares its opinion, which must be that of the majority, although the Association has shown itself rightly averse to overriding a considerable minority, and has sometimes disappointed the more eager spirits by refraining for this reason from registering a decision which constitutionally it would have been fully justified in making.

It has been urged that the vote of the Representative Body may not always accurately represent the opinion of the Association. The grounds for this contention are mainly two: first, that owing to the failure of many members for various reasons to attend meetings at which they are elected and instructed, Representatives are not made fully acquainted with the views of their constituents, and secondly, that resolutions or amendments may be adopted by the Representative Body on points which have not been fully considered by the Divisions. That these difficulties might arise was foreseen, and the Constitution of 1902 contained a provision designed to protect the Association against the risk that a decision of the Representative Body might not correctly reflect the opinion of the whole body. The machinery provided was the simple expedient of empowering the Council to make a reference to general meetings of the Divisions, while subsequent amendments enacted that the Council should only make such a reference on the vote of a two-thirds majority, and that at least half its members must be present to form a quorum. It has been objected that this is not an effective Referendum, because the reference is not to the whole body of members, but to meetings of Divisions, which, like the original meetings when the Representatives were appointed and instructed, might not be attended by many members kept away by professional engagements, by difficulties of access, or mere indifference. A certain body of opinion within the Association desired that the reference should be by way of a postal vote, but to this many who have taken an active part in the work of the Association vehemently objected, mainly on the ground that only those who have shown an active interest in the administration and in the political activities of the Association have made themselves competent to express an opinion on such matters.

In consequence of the existence of these conflicting views the Representative Body at its last meeting instructed the Council to prepare a report on the questions of the Referendum by postal vote and on the arrangements generally for securing that the decisions of the Representative Meetings shall, as far as possible, accurately express the opinion of the Association. This duty the Council has discharged by the presentation to the Divisions of the report published in the SUPPLEMENT this week. This report contains definite expressions of opinion on three points. First the Council advises that the proper remedy for any defect in existing regulations operating to prevent a Referendum being taken when desirable, is not to reduce the proportion of the Council authorized to initiate a Referendum, but to provide an alternative—namely, by the action of a minority of the constituencies. It is therefore recommended that one-fifth of the total number of constituencies in the Association, including in their membership one-fifth of the aggregate membership of the Association, should have power to obtain a Referendum on a decision of the Representative Body. Secondly, on the question of how this Referendum should be taken, the Council advises that a postal vote is not expedient, since it is not advisable to facilitate a decision by the votes of members who have habitually exhibited no interest in the work of the Association. It is on the other hand recognized that circumstances may arise to prevent members who take an active interest in the work of the Association from attending meetings of the Divisions to which they belong. A member, for instance, who is in the habit of attending such meetings may be prevented by the claims of professional duty from being present at a special meeting at which a vote on a Referendum is being taken. Again, in sparsely populated districts, a member may find it impracticable to be absent from home long enough to attend a meeting except on rare occasions. To meet such cases the Council recommends that any member should have the right to inform the Central Office, on or before a certain date in the year, that in the event of a Referendum being taken during the ensuing twelve months, he desires to be empowered to record his vote, if necessary, by post.

The third point on which the Council makes a recommendation in this report has reference to the adoption by the Representative Body of amendments to motions which have been circulated to Divisions or of motions arising out of consideration of reports of the Council or Committees on which the Divisions have not had an opportunity of recording an opinion. This difficulty, it is recommended, would be met by giving to the Council a discretionary power to refer any such decision of the Representative Body to the

Divisions, and by giving to a minority of the Divisions —one-tenth is suggested—the power to require such a reference to be made.

These recommendations are now before the Divisions for their consideration, and to facilitate business the report concludes with a series of specific questions which can be answered by a simple "Yes" or "No."

THE DEBATE ON VACCINATION.

DR. HILLIER has performed a signal service to the people of this country by raising the question of the increasing number of exemptions from vaccination granted to so-called conscientious objectors. His speech[1] in the debate on vaccination, which was fully reported in the last issue of the BRITISH MEDICAL JOURNAL, is in itself a proof of the need, in the interest of the public, of adequate representation of the medical profession in Parliament. Dr. Hillier may fairly be congratulated on his presentation of the case for vaccination, and the fact that his speech on so well-worn a subject was received with every sign of interest by a jaded House is a testimony to his success.

The bulk of the medical profession is so thoroughly convinced of the value of vaccination that it is perhaps somewhat too much disposed to look upon the whole question as a *chose jugée*. In a scientific sense this is true, but there are still unhappily not a few among the general public whom long security has made indifferent, and whose ignorance makes them liable to be led astray by the misstatements of a small body of disciplined agitators. We need not recapitulate Dr. Hillier's striking array of statistics showing the protection afforded by vaccination. We earnestly recommend our readers to study them for themselves, and we wish the speech itself could be, as is done in France in the case of utterances considered of particular importance, posted up throughout the country in public places where it might be read by every member of the public.

One of the most effective of Dr. Hillier's points was his reference to the experience of Germany. It may well, as Count von Porsodowski put it, be a matter of surprise, not only to Germans but to all civilized peoples, that we who gave the world vaccination should still keep small-pox. How utterly extinguished in their country the Germans believe small-pox to be is shown by the fact that in the preface to Henoch's classical treatise on diseases of children it is stated that a description of small-pox is superfluous, as "the disease is very rarely met with nowadays." The conclusion to be drawn from this receives strong confirmation from Dr. Bruce Low's statement that in Germany the provision made for the accommodation for possible small-pox patients is so scanty as to prove that the disease is regarded as almost a negligible quantity. This result is held to be wholly due to vaccination reinforced by a repetition of the procedure so as to ensure permanency of the protective effect.

Dr. Hillier pointed out that already 25 per cent. of the children of this country are unvaccinated. Each of these may be said to bear in itself the germs of a possible epidemic. Yet, in the face of this danger, exemption is being made easier, and the amount of fuel which an accidental spark may light into a terrible conflagration is steadily being heaped up. The position of the Local Government Board, which, in view of such a situation, folds its hands and declares that all is well, is indefensible. Dr. Hillier does not ask for the re-enactment of compulsory vaccination. Its abolition will probably in time bring about its own punishment. But it is the plain duty of the Department which is the guardian of the public health to do all that is possible to delay the day of reckoning. Mr. Burns declines to be moved, "because in the last six months when lots of people have been panic-stricken about rat plague, Asiatic plague, small-pox, and measles in London the Local Government Board stuck to its job." The members of its staff have, he says, hunted measles like sleuth-hounds, with the result that there is a general decrease. All praise to the President of the Local Government Board. We venture to think, however, that the decrease of measles is to be accounted for by the gradual exhaustion of the combustible material. Such epidemics tend to burn themselves out. So, it may be said, does small-pox. But small-pox in an unvaccinated community, in its process of self-extinction, works such havoc as to make the price of protection too heavy. Antivaccinists refuse to accept the teachings of experience in the days before Edward Jenner. They say such things could not happen among us nowadays, because the whole conditions of life have been changed by "sanitation." Sanitation has, of course, done much; it has practically stamped out certain diseases and greatly reduced the prevalence of others. But there are yet others—and among them may be mentioned diphtheria and small-pox—which sanitation by itself cannot prevent, and which it can do little, except with the help of other measures, to control. The very success of vaccination as a prophylactic has, as is the case with all great reforms, tended to obliterate the proofs of its efficiency.

He jests at scars that never felt a wound.

As bearing on this subject we may quote a passage from Professor Osler's booklet *Man's Redemption of Man*:[2] "I do not see how any one who has gone through epidemics as I have, or who is familiar with the history of the subject, and who has any capacity left for clear judgement, can doubt its value. Some months ago I was twitted by the Editor of the Journal of the Antivaccination League for maintaining a curious silence on the subject. I would like to issue a Mount Carmel-like challenge to any ten unvaccinated priests of Baal. I will take ten selected vaccinated persons, and help in the next severe epidemic with ten selected unvaccinated persons (if available!). I should choose three members of Parliament, three antivaccination doctors, if they could be found, and four antivaccination propagandists. And I will make this promise—neither to jeer nor to jibe when they catch the disease, but to look after them as brothers; and for the three or four who are certain to die I will try to arrange the funerals with all the pomp and ceremony of an antivaccination demonstration."

Professor Osler may, perhaps, be supposed to know as much about disease in general and small-pox in particular as Mr. Burns, and we venture respectfully to direct the attention of the right honourable gentleman to this challenge. While giving it consideration, the President of the Local Government Board would do well to act on the suggestion of Dr. Hillier, ably supported by

[1] BRITISH MEDICAL JOURNAL, April 22nd, p. 955.

[2] London: Constable and Co., 1910, p. 43.

Mr. Forster, one of the Unionist whips, and by Dr. Chapple, who sits on Mr. Burns's own side of the House, not to be content with sending out a form which is capable of being construed as a virtual invitation to seek exemption, but—without any attempt to do violence to "conscience"—to affix the seal of an official approval to vaccination which shall encourage parents to have their children protected against the most certainly preventable of all diseases.

THE FRIENDLY SOCIETIES' MEDICAL ALLIANCE.

THE Friendly Societies' Medical Alliance is evidently feeling what it regards as the antagonism on the part of the medical profession to medical aid associations rather acutely, and at its annual conference held last week at Bradford, which was said to represent half a million members, some strong remarks were made as to the action of the British Medical Association and especially as to the attitude of practitioners in certain districts.

The President of the conference referred to the trouble between the medical officers of the alliance and the practitioners of Sheffield, and said that considerable attention had been given to the matter by their solicitor. He also said that at Chesterfield local practitioners had declined to attend patients recommended to the hospital by the doctors of the alliance. The annual report referred to the fears of a year ago of a desperate struggle with the "British Medical Council," by which apparently was meant the Council of the British Medical Association. The honorary solicitor reported on the Sheffield dispute, and stated that a medical man belonging to the British Medical Association had suggested that the class of medical men who would accept work from medical aid associations consisted of doctors who had failed elsewhere and young beginners who wished to make a start in life by experimenting on the members of the associations, statements which were received with some laughter by the meeting. He said that the alliance would have to stand by its doctors, who were chosen with great caution and were men of good qualifications. He added that the point had been referred to the General Medical Council, which replied that before a complaint could be considered it must be embodied in a statutory declaration; the matter had not been carried further. A resolution was passed empowering the Council to bring any future case before the General Medical Council and to pay all expenses out of the defence fund. A further resolution was proposed that the Council should prepare a list of consulting physicians and surgeons who were willing to render services to any associations unable to obtain consultations with such specialists in their respective districts; it was stated that the majority of places suffered from the ostracism by consulting surgeons of members of medical associations. The proposal was defeated, as it seemed to be thought that the publication of such a list of consulting physicians and surgeons would not be in the interests of the medical aid associations. In the course of discussion reference was made to the establishment in some districts by ordinary medical practitioners of a competitive system of medical service, said to be "on the lines of that provided by the medical aid assurance." The latter part of this statement is, of course, altogether mistaken, as the medical profession is wholly opposed to the "lines of the medical aid assurance," but it was suggested that the way to meet this movement was for the alliance to improve its own service of medical aid. It was also said that if it could only be ascertained definitely what the medical men required from the alliance, a round table conference of a dozen people could actually settle the matter once for all, and the alliance would be permitted to continue to work in perfect harmony with the medical faculty.

It is perfectly easy to say what the medical profession requires in this matter; its attitude has been explained repeatedly, and the assumption of ignorance as to what is desired is somewhat amusing. To put it shortly, the profession demands that it should be allowed to manage its own business, and it resents the interposition between patients and medical attendants of middle men like the Medical Alliance. The exploitation of the profession by these associations is intolerable. The salaries offered are miserably low—barely a living wage—and the number of patients assigned to the medical officers is often far more than can be properly attended to. The lay committees are often ready to lend sympathy to every trivial complaint of patients, so much so that to be at all strict in opposing malingering is often as much as a doctor's position is worth. Further, although touting for members may be and often is disowned and forbidden by the associations as such, in actual practice touting for members is extensively carried on by collectors and officials in numerous subtle and insidious ways that cannot be controlled, but which the associations seem to find necessary if they are to be what they regard as successful. This being the case, every medical officer is practically at the mercy of the collectors and officials, who do not understand that there can be anything wrong in obtaining as large a membership as possible by methods which may be perfectly correct in other societies, but in which the medical profession is forbidden to participate, and from which it must not derive profit. Moreover, a considerable number of members of the associations are well able to pay ordinary medical fees. Any theoretical wage limits or other so-called limitations of membership are often little more than a farce, and it is the almost universal feeling in the profession that where a medical aid association is at work, the local practitioners are being deprived of patients, whom they might legitimately expect to attend at fees customary in private practice in the neighbourhood. So long as this is the fact there cannot be any wonder that any medical man who gives his services to such an association is not regarded with friendly feelings by the profession in general. We say nothing about any particular instances referred to in the conference, as there are proper tribunals before which any case may be inquired into and dealt with according to its merits.

As a general rule medical aid associations illustrate in an aggravated form every abuse which is connected with contract practice, especially the underselling of other practitioners; as was stated in evidence before the Royal Commission on the Poor Laws about the friendly society medical club system in general, "it means a sweating of the medical profession on the one hand and a perfunctory and inefficient performance of duties on the other hand." From the public point of view we would lay the utmost stress on the fact, insisted on by the Minority Report of the Royal Commission, that the contract medical practice of the friendly societies as a rule has a distinctly

adverse influence on the public health, and this applies in an aggravated way to the great majority of the medical aid associations.

ELECTION OF DIRECT REPRESENTATIVE.

At the time we go to press four candidates have been nominated for the seat on the General Medical Council rendered vacant by the lamented death of Dr. McManus, who was elected a Direct Representative in 1907, and as the last day for the receipt of nomination papers is this day—Saturday, April 29th—it seems improbable that any other candidates will come forward. As already announced, Dr. J. A. Macdonald has responded to a widely-expressed wish by consenting to become a candidate on this occasion. Dr. Macdonald, in his address to the registered medical practitioners of England and Wales, published in our advertisement columns this week, lays special stress on the educational aspects of the work of the General Medical Council, on the need for reform of the Medical Acts, and on the importance of the General Medical Council being in a position to ascertain the views of the medical profession and adequately express them to the Privy Council and the Legislature. Dr. Macdonald is well known to members of the British Medical Association, for he has been chairman of the Representative Body, and chairman of the Medico-Political Committee, and is now chairman of the Central Council and of the Special Poor Law Committee. Dr. Macdonald is himself a general practitioner, who has been in practice at Taunton, Somersetshire, for many years, and during his long and varied services to the British Medical Association he has had unrivalled opportunities of making himself acquainted with the needs and aspirations of the profession in all parts of the country. Mr. George Jackson, F.R.C.S., who served one term on the Council from 1902–7, is again a candidate. His views are expressed in the address which was published in our advertisement columns of April 22nd. The candidature of Dr. Hawkyard, the President of the Leeds and District Medical Practitioners' Association, is commended in a letter from the Honorary Secretaries of that association published elsewhere (p. 1004), and his address is published in our advertisement columns of this week. Dr. S. C. Lawrence, who also publishes his address in our advertisement columns of this week, is Medical Officer of Health for Edmonton, one of the northern suburbs of London, and is an active member of the Society of Medical Officers of Health and of the Society of Members of the Royal College of Surgeons of England. Another election must take place at the end of this year when the terms of office of Dr. Langley Browne of West Bromwich, and Dr. Latimer of Swansea, will expire, and when the Order in Council issued in August, 1909, conferring on the registered practitioners of England and Wales the power of returning an additional member to the Council, will come into operation.

METRIC PRESCRIPTIONS.

Among the reports by the Council to the Divisions published in the Supplement this week is one relating to the use of the metric system in the prescription of drugs, drawn up in response to a request made at the Annual Representative Meeting in 1908. After setting forth briefly the advantages to be expected if the medical profession in these islands conformed in this matter to the practice of the Continent, and after stating that complete uniformity is hardly to be expected until the present generation of practitioner has been succeeded by men taught dosage on the metric system in the schools, the report puts forward a transitional procedure which would at once introduce many of the advantages of the metric system of prescribing and also render completion of the change, if deemed desirable, exceedingly easy at a later date. Fully to appreciate this procedure, which has been worked out by Dr. Buist, the report itself must be studied, but the main principles which seemingly underlie it may here be stated. A mathematically precise translation of British weights and measures into their metric equivalents is not necessary, for however carefully the dose of any drug to be taken by the mouth may be prescribed, the precise amount the patient takes will always vary when the drug in question forms part of a mixture administered in tablespoonfuls or the like; for such quantities when poured out are never precisely the same. Hence, translation is sufficiently accurate if the factor of multiplication both for grains and minims be taken as 16 instead of 15.4324 in the case of grains into grams and 16 906 in the case of minims into cubic centimetres. The second principle is that the amount to be given shall, as now, be thought out by volume in the case of fluids, by weight in the case of solids, and shall be the amount for a single dose, and not, as in France, the quantity for twenty-four hours. The third is that when a mixture is prescribed the quantity ordered to be taken on each occasion shall, when multiplied by 16, make up either 2 oz., 4 oz., or 8 oz. The fourth is that in writing a prescription no symbols of any kind shall be used, the amount of each constituent desired to be contained in a single dose, including the water or other solvent, being indicated merely by a figure (which in the prescriber's mind indicates minims or grains), and that the dispenser, when faced by such a symbol-free prescription, shall understand that he is to dispense it on the metric system. In this case the result of his work will be either a 2 oz., a 4 oz., or a 16 oz. mixture, which, though dispensed on the metric system, will nevertheless contain in each dose the amounts that the prescriber has thought out in grains and minims. With regard to pills and powders, the procedure is somewhat different. In this case the prescriber takes 0.06 as the equivalent of a grain, and when writing the dose for a single pill or powder writes, when he would otherwise write 1 grain, simply .06 without any symbols whatever, or, if he wishes to prescribe less than a grain, divides .06 accordingly (for example, ½ grain would be .06 divided by 2, or .03; while ¼ grain would be .06 divided by 4, or .015), again using no symbols. He also takes care that the total number of pills he orders is a multiple of 10. The dispenser then makes up the number of pills required on the metric system by moving the decimal point one place to the right. The transitional procedure thus indicated is by far the most ingenious and yet simple and practical method of introducing the metric system that we have yet seen suggested, and it is to be hoped that the medical profession will give it the attention it thoroughly deserves.

WALL-PAPER AND ILLUMINATION.

The modern eye specialist and illuminating engineer would think slightingly of Cowper's preference for faint illumination:

> Not undelightful is an hour to me
> So spent in parlour twilight; such a gloom
> Suits well the thoughtful or unthinking mind.

Nevertheless, there is a considerable difference of opinion among experts as to the key at which interior illumination should be pitched and the modifications it is desirable to introduce by means of wall-paper, ceiling and floor covering of particular tints. In the

United States white wall-paper is used very largely, and undoubtedly effects an economy in lighting, but Mr. Haydn Harrison, M.I.E.E., in a paper read before the Illuminating Engineering Society on April 24th, expressed the opinion that white wall-paper as a complement to white light had a peculiar and unfortunate effect, which was rather psychological than physiological. A room with dark-coloured surroundings might be more satisfactory than a room with surroundings of a high luminosity which tended to cause continuous contraction of the pupil, and ultimately to produce a trying effect upon the retina. But in this respect the position of the illuminating engineer was, he said, like that of the physician who had to study the idiosyncrasies of patients. Different effects suited different people. Few men cared to study or dine in a room where the light emanated from all sides, and where the iris was kept constantly contracted by the high luminosity of the surroundings. On the other hand, many of the opposite sex preferred this wholesale illumination, owing, he fancied, to a desire to exhibit themselves and their costumes. In the discussion, however, another lighting engineer said that in his experience ladies preferred dim illumination in boudoir and drawing-room, on the same principle as they wore veils—namely, to leave something to the imagination. It was men rather than women who insisted on over-brilliant lighting. The discussion on the wall-paper point resulted in little that was definite. Some tests carried out in a small room hung with differently coloured papers and having a white ceiling and lamp without reflector were described by Mr. V. H. Mackinney, and proved that with a dark green paper more than double the illuminating energy was required in order to obtain the same flux of light on the working plane—that is, the table plane—as in the case of a white-walled room. With red paper the demand for compensatory lighting was scarcely less than in the case of dark green, but with light green the necessary increase was only about 40 per cent. In some similar experiments conducted by Mr. Haydn Harrison, dark green was found to have the lowest reflecting value of the colours chosen, while light green was at the other end of the scale, and intermediately, in the order given, were dull cardinal red, medium blue, bright red, and light blue, this last, however, being considerably behind light green. Mr. P. J. Waldram, who also read a paper on the subject, pointed out the foolishness of buying light in order to feed the rapacious appetite of dark-red and olive-green papers; he contended that it was not wise to consider the working-plane illumination as a criterion of the illumination of the whole room. Every one unconsciously judged a room by its walls, and the light reflected by the walls and ceilings had a psychological effect upon those who used it, which neither the lighting expert nor the architect could afford to disregard. The increase of flux of illumination on walls by reflection tended to vary from between 50 and 70 per cent. with white wall paper, down to between 20 and 30 per cent. with very dark papers. So far as any general opinion could be gathered from the discussion, it appeared to favour a light green wall paper for most purposes.

NERVOUS DYSPEPSIA AND THE STOMACH TUBE.

IN the *English Review* for April is an article, entitled The Stomach Pump, by E. U. Pepsia, which illustrates the extraordinary fancy people have for discussing their digestive difficulties in print. Like the ancient Romans, the writer has discovered that it is easy to get rid of his gastric embarrassment by the simple method of emptying the stomach, but he prefers doing so by means of the stomach tube instead of the more primitive emetic. He says that, like most Englishmen, he used to take a good deal of exercise and implies that he lived generously. At 40 he weighed 13 st. and began to suffer from indigestion; his sleep became fitful, and he was told that his symptoms pointed to gout; he was advised to leave off tobacco, port, and champagne; he stopped smoking and became a total abstainer, but, instead of getting better, he grew worse. He changed his medical adviser and gave up game and pastry; another physician stopped soup and fed him on fish and "vegetables," but forbade potatoes, salads, and pastry. In spite of all this, his indigestion grew worse; he now weighed 14 st. He tried "everything from London to Berlin," and all kinds of diet from vegetarianism to beefsteaks and hot water. One day his doctor told him of the stomach pump, and is credited with the recommendation that "it will wash all the uric acid out of the stomach"; he explained the method of emptying the stomach by means of the stomach tube. The author was more frightened than impressed, but promised to try it some day. One day he found salvation, and he tells us how it happened: "I had a good walk before lunch, I remember, and did myself rather well at lunch; just as I was finishing the sweet, bad news came to me; *I am a highly-strung man, and it brought about a fit of nervous indigestion;* at 5 o'clock I was really ill; I wired to the doctor that I would come to him at 6 o'clock and use the stomach pump." He went and his stomach was duly washed out. For the result he fails to find words; he says, "The stomach pump is a beneficent magician; I felt quick and vigorous as I had not felt for years." He thereupon started to wash out his own stomach daily, and he claims by this means to have established a scientific dietary for himself. We understand him to mean that when he washed out his stomach he saw what food had become little or not at all changed, and regulated his diet accordingly. The final result was that he was reduced to 11 st. in weight. He could walk well, needed no medicine, and suffered from none of his old symptoms. It is eleven years since he began the use of the tube—at first daily, but now once or twice a week. It is hardly credible that eleven years ago the author could have consulted so many physicians, especially in Germany, without having his stomach washed out; but it is not uncommon to meet with persons who attach an exaggerated value to the use of the tube, and, having learnt to use it for themselves, employ it for the slightest discomfort. The key to the case is to be found in the words we have italicized.

FELT MANUFACTURE AND ANTHRAX.

THREE reports recently issued by H.M. Chief Inspector of Factories are of considerable interest. Two of them, by Mr. H. Verney, one of H.M. Inspectors of Factories, describe the preliminary processes in the manufacture of felt, and the possibility of eliminating blood-stained material in its preparation. The third, by Dr. Eurich of Bradford, compares the felt trade of Rochdale and district with the worsted industry of Bradford, so far as the danger from anthrax is concerned. Mr. Verney's description of the manufacture of felt is very interesting. The raw materials used are chiefly East Indian wool and some Cape wool, jute, noils, and wool waste. A "mixing" is made of the various ingredients by placing them in superimposed layers on the floor. Low grades of East Indian wool are used, and as this material is tightly compressed, it has to be pulled apart with considerable force. In doing this some of the dust escapes, and as this may contain the spores of anthrax there is

some danger in the process. The "mixing" having been built up to the required height is pulled off from top to bottom, so that each skipful contains the due proportion of every layer. The "willow" then tears the fibres apart, and in this process a cloud of dust is driven into the face of the attendant. What is required is a willow with an automatic feed and delivery. The material goes through further teasing in a machine called a "devil," and it is then carded, a process which straightens out and cleans the fibres. Even in carrying out the latter processes dust and short dusty fibres are produced. To make the processes safer for the workers an improved type of willow and the provision of overalls and respirators are necessary. Mr. Verney draws attention to the fact that (1) there is no sorting in the felt trade; (2) the wool has been washed or scoured previously to manipulation; (3) much of it is of a dark colour. It appears to be almost impossible to eliminate blood-stained material from East Indian and Cape wool when used for the manufacture of felt. The fellmonger appears to be in a much better position to eliminate infected material than the felt manufacturer. Fallen skins are those most frequently infected. Dr. Eurich, in his report, compares the felt trade and the worsted industry of Bradford, so far as the danger from anthrax is concerned. He thinks it highly improbable that a material risk attaches to the fleeces of slaughtered sheep. But the case is different with the fallen fleece, for here there is a risk of conveying anthrax, although it is impossible to gauge its degree. He discusses methods of combating the danger. The first would be the rejection of all fallen fleeces by the fellmonger. This would mean a loss of 10 to 15 per cent. of imported fleeces, and an enhanced price for Cape skin wool, which might make the manufacture of the felt commercially impossible. In the second place, with regard to trimming, it is pointed out that these fallen fleeces are not blood-stained at the neck portion only. An inspection of all parts of the fleece would be necessary, and faecal masses would also have to be removed. This process would lessen but not completely remove the danger. In the third place, disinfection of the fallen fleeces would be easier than in the woollen trade, as time is not of such moment. It should be possible, without impeding the fellmonger's work, to prelude the usual series of processes by a bath in some disinfectant for twenty-four hours. Sorting, as carried on in the Bradford trade, is much more difficult and less useful when applied to the felt trade. A systematic search for tainted material could be effected only by carefully looking over the contents of each bale before, and not while, being distributed on the pile; but it is doubtful whether the felt industry would bear the increased price of manufacture which would result from carrying out this process.

A DAINTY DEVICE OF TERMINOLOGY.

JULIET must be excused on the ground of her youth and inexperience for her famous question, "What's in a name?" Had she lived in these days and taken a degree in medicine, she would have learnt the important part that names play in the science and art of healing. Doctors are somewhat apt to think that when they have given a name to what may be nothing more than a fortuitous concourse of symptoms, they understand the disease. Names are too often cloaks for ignorance, but such cloaks are sometimes very convenient. How often has a name pacified an anxious patient or his relatives The classical example is that of an erstwhile celebrated physician called—very unwillingly, it should be said—into counsel by the doctors of a wealthy patient whose wife was importunate in her wish to know what her husband was suffering from. He had Bright's disease, but the doctors did not wish the ugly name to be mentioned. The lady, however, like Arthur Clennam at the Circumlocution Office, "wanted to know." To her cross-questioning, the oracle solemnly replied, "Madam, your husband has a cachexia." "There," she said, turning in triumph to the other doctors, "I knew Sir Thomas [that was not his name but 'twill serve] would tell me!" The medical profession at least cannot afford to give up compulsory Greek. This is the moral of a story told of a great French surgeon—said by the *Chronique Médicale* to have been Péan, but that is an unessential detail. At the beginning of his career the surgeon was one day summoned to attend as doctor at a duel. One of the combatants—whose courage, like that of Bob Acres, leaked out at his fingers' ends when he found himself on the field of honour—began to tremble in all his limbs. His seconds tried to screw him to the sticking point; but at the first encounter, acting on the principle that

> He who fights and runs away
> May live to fight another day,

he threw away his weapon, and fled from the field. The four seconds, his opponent, and the young doctor were half amused, half embarrassed at the unexpected situation. Suddenly a solution was found by the surgeon, who said: "I know the complaint that has suddenly seized that poor young man." Taking out a pocket-book he, with perfect gravity, forthwith drew up the following report: "At the first encounter M. X——, being seized with a paroxysm of irrepressible *tachypodia*, the seconds, after consulting with the doctor, stopped the duel." This doughty champion might have comforted himself by reversing the famous message attributed to Francis I, after his defeat at Pavia, and saying *Rien n'est perdu fors l'honneur*. But, by a dainty device of Greek-born terminology, the ingenious surgeon saved even his honour.

PATHOLOGICAL MUSEUM OF THE ANNUAL MEETING.

FROM the announcement made in the SUPPLEMENT of this week it will be seen that a committee has been appointed, with Dr. R. F. C. Leith, Professor of Pathology and Bacteriology in the University of Birmingham, as chairman, to organize a pathological museum in connexion with the Annual Meeting in Birmingham next July. It is proposed to arrange the material under four heads: (1) Exhibits bearing on discussions and papers in the sections, (2) specimens and illustrations relating to recent research work, (3) instruments relating to clinical diagnosis and pathological investigation, and (4) individual specimens and series of special interest. The museum will occupy a central position in the same building as that in which the sectional work will be carried on, and will therefore be easy of access. Further information can be obtained from the Honorary Secretary, Mr. A. W. Nuthall, F.R.C.S., 89, Cornwall Street, Birmingham.

MEASURES AGAINST MALARIA.

THE measures by which malarious districts may be rendered practically innocuous to their inhabitants are now so well known that it might have been supposed that the proprietors of secret remedies would regretfully conclude that this field of enterprise was unhappily closed to them. It appears, however, that

this is not the case. From a number of documents which have reached us it is obvious that mine managers and other like persons in South Africa are being ardently invited to employ "Maningo" for the protection of their workers and live-stock against insect-borne diseases and for the cure of such diseases, or alternatively as a marvellous healing agent in rheumatism, eczema, asthma, bronchitis, etc. Some of the statements made about it are as quaint as any of those included in *Secret Remedies*, which is saying a good deal. The method of its action is, of course, set forth, and the fact that this is somewhat reminiscent of the House that Jack Built does not make it less attractive. Maningo, when taken into the body, creates an acid, and the acid destroys the parasites inoculated by insects, and these killed parasites are excreted through the pores of the skin. Meantime, the industrious acid is likewise making its way to the surface of the body. From this it is given off as a gas of such kind that no self-respecting mosquito or other insect will remain in its vicinity. Hence people who take maningo are not only cured of their existing infection, but are protected from reinfection. Of course, too, there are plenty of testimonials. The writer of one, indeed, admits that while taking maningo he suffered from malarial fever, but with the customary enthusiasm of secret remedy takers writes this down as clear evidence that the remedy was engaged in driving out the virus from his system. The true humour of the situation only becomes evident when on qualitative analysis maningo is found to consist not of sugar and spice, and all things nice, as are some of its congeners, but of sugar and starch, together with a good deal of sulphur and some iron and quinine. This being the case, it would constitute a laxative tonic of a common everyday type, and as such might be expected to do some good in certain cases of debility or of simple anaemia. On the other hand, to learn that it is not only curative of malarial fever, but that a person who takes it regularly becomes after a fortnight totally immune to malaria, sleeping sickness and elephantiasis, is indeed surprising. On the whole, therefore, one would be disposed to believe that mine managers and others in South Africa would find it much cheaper and far more effective to combat malaria by contributing in reasonable proportion to the expenses of crusades having as their object the abolition of mosquito breeding centres and preventing mosquitos biting human beings, and by imposing on their employees, when so counselled by their medical advisers, the duty of taking 5 or 6 grains of quinine regularly two or three times a week. Measures of this double kind have been found effective wherever thoroughly tried, and should prove not less satisfactory in South Africa than elsewhere. Indeed, in a certain number of Transvaal mining areas there is already experience of the benefits of a mosquito crusade. The cost of a 5-grain dose of quinine is nowadays, it may be mentioned, less than half a farthing.

A MEDICO-LEGAL INSTITUTE.

THE foundation of a medico-legal institution in Paris was announced in the JOURNAL some years ago. Owing to various causes, however, the scheme has never been fully realized. Now the State and the city of Paris have come to an agreement on the crucial question which has been the chief stumbling-block, and the problem of the adjustment of financial responsibility has been solved. The new institute will be erected in the Place Mazas (Pont d'Austerlitz), and will comprise three distinct departments: (1) An administrative service, for the reception and identification of bodies, which will be housed in much more suitable quarters than those of the existing Morgue. (2) A service of autopsies and investigations ordered by judicial authorities; for these three *post mortem* rooms and one medico-legal laboratory will be provided. (3) A department for the teaching of medical jurisprudence; this will comprise a lecture room accommodating 200 students, a toxicological laboratory, an installation for animals used for experiments, a museum and a library. The institute will also comprise laboratories in which scientific investigators may, with the permission of the Vice-Rector of the University, make researches.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

The Asylums Officers (Employment, Pensions, and Superannuation) Bill.

On April 21st Viscount Wolmer moved the second reading of this bill, which he described as non-contentious. It applied to a limited class of people —30,000 in all—who had to perform arduous, responsible, and extremely distasteful duties. All the clauses except one were intended to remedy minor defects which experience had shown existed in the Asylum Officers' Superannuation Act of 1909. The most important clause was the first, which limited the hours of work of asylum officers to sixty per week. He could only compare the strain upon an asylum attendant to that upon a man driving a swift motor car. It was a moral wrong that a man or woman should be called upon to work thirteen hours a day under such arduous conditions. Provision was made in the bill that no attendant should be permanently dismissed without having had an opportunity of bringing his case before the visiting committee. The arrangements as to pensions would secure that in future every man would receive his pension according to the position to which he had succeeded in working up. The question naturally arose whether the bill would have the effect of increasing the rates. The pension part of it would not have this effect, but the limitation of hours would involve some slight increase in the rates. He did not think, however, that they should practise economy at the expense of the flesh and blood of their employees.

Sir Frederick Banbury moved the rejection of the bill, on the ground that it was undesirable to limit the hours of adult labour, but he found no seconder.

Mr. Masterman (Under Secretary, Home Office) said a case had at least been made out for investigation. There was no doubt that asylum officers had a particularly trying duty to perform, and they had continual responsibility. They had, of course, many opportunities for recreation and fresh air during the hours of labour which were not given, for instance, to miners and shop assistants. But when every allowance had been made for those partial stretches of recreation or relaxation, their hours were really too long, and if they could be reduced without undue expense to the local authorities they certainly ought to be reduced. When, however, the House went beyond those general considerations they were dealing with points on which they had no data which would enable them to make up their minds. The promoters of the bill were unable to give them any estimate of its cost. The House was asked to impose upon the local authorities an indefinite amount of increased expenditure without giving the local authorities an opportunity of supporting or rejecting the scheme. That being so, he would strongly urge that the bill should be sent to a Select Committee, so that evidence could be taken and the attitude of the local authorities could be ascertained. If Viscount Wolmer would accept that suggestion, the Government would support the second reading of the bill.

Mr. Swift accepted the proposal to refer the bill to a Select Committee. Mr. Rawlinson criticized the

drafting of the bill, and Dr. Addison supported this criticism, and urged that licensed houses were in much more need of attention than large public asylums. He controverted the views expressed as to hours of labour, and supported the proposal of the bill to limit the hours to sixty per week. He supported the bill generally, and especially its reference to a Select Committee. After several others had spoken the closure was moved at 2 minutes to 5 and carried by 105 to 3, and the bill was read a second time and referred to a Select Committee. The progress of the bill will depend largely on the extent of the inquiry made by the Select Committee, but in all probability there will be no legislation this session.

Control of the Feeble-minded.—Mr. James Parker asked the Home Secretary what action it was proposed to take on the report of the Royal Commission on the Care and Control of the Feeble-minded; and whether he would consider the possibility of introducing a bill embodying at any rate some of the recommendations contained in the report. Mr. Churchill replied that he was most anxious for action in this field; and work preparatory to legislation was proceeding. He was not wholly without hope of being able to introduce a bill this session, but only universal goodwill could carry it forward into law.

Vaccination Fees for Parents.—Mr. Lansbury asked on Tuesday if a public vaccinator in Bermondsey paid 2s. to the parent of every child taken to him for vaccination; and if Mr. Burns would recommend the Bermondsey Board of Guardians to reduce the fees paid to public vaccinators in that union. Mr. Burns replied that one of the public vaccinators in Bermondsey was also a teacher of vaccination authorized to give certificates of proficiency in vaccination to persons who might afterwards become public vaccinators. He understood that he made some payments to the mothers of children who brought them for vaccination to the classes which he held for the instruction of students. He did not see any sufficient reason for recommending a reduction of the fees paid by the guardians to the public vaccinator.

Vaccination in India.—Mr. Chancellor asked the Under Secretary for India a long question tending to show that the badly vaccinated provinces suffered less from small-pox than the well vaccinated provinces, and that the mortality among Indian children from small-pox was less in the badly vaccinated provinces than in the well vaccinated districts, ending up with a request for a Commission to investigate the value of vaccination in India. Mr. Montagu answered that he had seen the articles in the *Vaccination Inquirer* to which apparently his hon. friend referred, but he could not accept their representation of the facts, and did not consider that a case had been made out for appointment of a Commission or alteration of the law. Vaccination was optional over by far the greater part of British India, including 93 per cent. of the population.

Education (Provision of Meals) Act Amendment Bill.—On Wednesday in last week Mr. Jowett introduced this bill to remedy a defect in the Act of 1906 and to make meals to be provided during holidays. He said that in Bradford there was a remarkable deterioration in the condition of the children during the school holidays, and he exhibited a chart showing how a decrease of weight occurred at each successive holiday period, which the children rapidly regained when the holidays were over and the meals were provided. He calculated that in many families there was only a sum of 1s. 9¾d. per head per week for all household requirements when rent was paid. Taking the figures of Bradford, it appeared that there were some 250,000 children in the urban population of the kingdom for whom free meals continuously were a necessity for healthy growth. The bill is backed by Mr. Ramsay Macdonald, Mr. Arthur Henderson, Mr. Barnes, Mr. Clynes, Mr. Keir Hardie, Mr. Lansbury, Mr. Crooks, Mr. Enoch Edwards, Mr. George Roberts, and Mr. Parker.

Milk Standard.—Mr. Orde-Powlett called attention to recent decisions in the North-Eastern Counties whereby the presumptive standard of the Sale of Milk Regulations had the effect of making it an absolute standard, to the great hardship of the farmers in a district in which scientific experiments and general experience showed that milk tended from time to time to fall below such standard. Sir E. Strachey said that his attention had been called to the case, but so far as could be gathered from the newspaper reports, the decision of the Recorder did not put any new interpretation upon the law. The Board was making inquiry as to the administration of the Food and Drugs Acts in relation to milk generally, but until further information was available it did not see its way to adopt the suggestion of suspending the Sale of Milk Regulations, 1901, pending a full inquiry.

Army Meat Supply.—Mr. Charles Bathurst again called attention to the supposed extraction of meat juice from meat previous to chilling, and asked on what authority it was stated that the nutritive value of chilled beef and home-killed meat was the same. Colonel Seely replied that the view entertained at the War Office was based on a report of a scientific investigation by Samuel Rideal, D.Sc., London, published in 1907. The extraction of juices from the meat previous to refrigeration was a process of which there was no knowledge in the War Office, and he was informed that if such process did take place the carcass would bear such signs of it as to render detection certain on ordinary inspection. In answer to further questioning, he said that he did not think it was necessary to inquire from our Ambassador at Washington on a technical point on which the experts probably were better informed.

Gun Deafness (Royal Navy).—Mr. Fitzroy asked the First Lord of the Admiralty whether he was aware that gun deafness was prevalent among both officers and men of the navy; and if he would issue an order from the Admiralty making it compulsory on both officers and men to wear some form of ear protection when gun-firing is taking place on board ship. Dr. Macnamara said that cases of gun deafness undoubtedly occurred, but there were no grounds for attributing any considerable number of invalidings for disease of the ear to the effects of gun fire. Protective material was already provided and could be drawn by ships. The use of cotton wool, a supply of which was always to hand, as a protective material was now so general that it would appear to be unnecessary to issue the order suggested.

Plague in India.—In answer to Mr. Morrell, who asked as to the deaths from plague in the provinces of Oudh and Agra in February and March, Mr. Montagu said that the number returned for February was 43,508, and for March 95,884. The measures that were being taken were described in a statement recently made in the Legislative Council of the United Provinces, copy of which he should be happy to show the hon. member. Reliance was mainly placed upon evacuation of dwellings and inoculation, together with rat destruction and disinfection of houses. Asked further if the disease was not preventable and unknown before 1900, Mr. Montagu replied that it was recrudescent and it was viewed very seriously by all those scientific and other authorities who were hopeful of a permanent diminution in cases of plague. Every effort was being made to stamp out the disease, and he did not think it would be necessary to postpone the Durbar celebrations.

Phosphorus Matches in India.—Mr. Montagu informed Viscount Wolmer last week that he did not expect that a bill to prohibit the manufacture, sale, and importation of matches made from yellow phosphorus, could be introduced until the Legislative Council assembled at the end of the year.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

POST-GRADUATE CLASSES AT THE GLASGOW ROYAL INFIRMARY.

THE programme of these classes which appeared in our advertisement columns on April 8th, page 56, was very full, and all the more practical developments of general and special medicine and surgery are receiving due attention. During the last seven years these classes have proved very popular, and have attracted graduates both from home and abroad, the annual attendance being on several occasions close upon 100. At the Royal Infirmary the facilities for teaching and learning are exceptionally good on account of the large number of patients attending both the indoor and outdoor departments, and year by year the increase has been on a vast scale. The staff of the hospital have taken great interest in these classes, and have made it a special object that the instruction be as practical as possible. The following course has been arranged to begin at once, and another has been fixed for September.

Clinical Medicine.—Walter K. Hunter, M.D.
Clinical Surgery.—John Barlow, M.D., and Henry Rutherfurd, M.B., C.M.
Diseases of the Urinary Organs.—David Newman, M.D.
Diseases of the Bladder.—A. G. Faulds, M.B., C.M.
Clinical Examination of the Urine.—John Henderson, M.D.
Gynaecology.—(*a*) G. Balfour Marshall, M.D., and (*b*) A. G. Banks, M.D.
Diseases of Throat, Nose, and Oesophagus.—John Macintyre, M.B., C.M.
Diseases of the Ear.—J. Kerr Love, M.D.
Diseases of the Eye.—John Rowan, M.B.
Diseases of the Skin.—Alex. Morton, M.A., M.D.
Diseases of the Throat and Nose.—Robert Fullerton, M.D.
Asthma and Related Nasal and Pulmonary Conditions.—James Adam, M.A., M.D.
Venereal Diseases.—A. N. Macgregor.
Electro-Therapeutics.—James R. Riddell, F.R.F.P.S.G.
Vaccine-Therapy and Opsonic Technique.—J. A. Campbell, L.R.C.P., etc.
Immunity.—E. T. Fraser, M.D.
Anaesthetics.—John Donald, M.D.
Bacteriology.—David McCrorie, L.R.C.P.

It will facilitate arrangements if those desirous of joining any of the classes will communicate with Dr. Maxtone Thom, Superintendent, who will supply any information desired.

THE KING EDWARD MEMORIAL.

At the meeting of Glasgow Town Council held on April 13th a report was submitted by the Council representatives to the meeting in Edinburgh; at this they found themselves in a minority, the majority of those present being in favour of the Holyrood improvement scheme, as against a crusade against consumption. The report submitted by the representatives suggested that the Lord Provost of Glasgow should convene a meeting of town and county councils to consider the subject. The representatives stated that the Edinburgh meeting consisted largely of private citizens who represented no public body, and that on analysis of the list of actual delegates they were equally divided on the merits of the respective schemes. No opportunity for discussing these merits was permitted, and they practically recommended that the question should be discussed by representatives all over again. After a very full discussion, during which it was evident that the consumption crusade had the support of the majority of the members, the report was adopted, suggesting that the Lord Provost take the initiative in calling a new and representative meeting to discuss the whole question. Sir Thomas Glen Coats, Bart., the Lord Lieutenant of Renfrewshire, convened a meeting last week for the purpose of forming a committee to give effect to the resolution of the county meeting that a fund should be raised to be applied towards the prevention and treatment of tuberculosis and the establishment of a central research laboratory. A representative committee was appointed, to include representatives from the County Council and districts, the Town Councils of Greenock and Paisley, and various other bodies. The county medical officer and medical officers from districts and towns were also included.

ASSOCIATION OF SCHOOL MEDICAL OFFICERS FOR SCOTLAND.

The first meeting of this Association was held in the offices of the Govan Parish School Board, Glasgow, on April 8th. Dr. Ernest T. Roberts was in the chair, and there was a fairly large and thoroughly representative attendance of school medical officers. The constitution of the Association was finally approved, and it was decided in the meantime to proceed as a separate and distinct association and not to seek affiliation with any existing society. The following officers were appointed for the ensuing session: President, Ernest T. Roberts, M.D. (Glasgow); Vice-Presidents, George Rose, M.B., D.P.H. (Aberdeen); Geo. Arbuckle Brown, M.B., B.Sc., D.P.H. (Govan Parish); General Secretary and Treasurer, J. King Patrick, M.B., D.P.H., County Buildings, Ayr; Reporting Secretary, A. E. Kidd, M.B., D.P.H. (Dundee); Members of Council, Miss Kate Fraser, M.B., B.Sc. (Govan Parish), J. Halley Meikle, M.A., B.Sc., M.D., D.P.H. (Edinburgh), A. F. MacBean, M.A., M.B., D.P.H. (Fifeshire), John MacIntyre, M.B., D.P.H. (Lanarkshire), and A. A. MacWhan, M.B., B.Sc., D.P.H. (Berwickshire).

EDINBURGH SCHOOL CHILDREN.

The report of the medical officer to the Edinburgh School Board for the year 1909–10 states that the medical staff under the Board consists of a chief medical officer, two qualified assistants (male and female), and three nurses. There are fifty-eight schools under supervision in respect of school buildings, infectious diseases, disinfection and cleansing of schools, special classes for physically and mentally defective children, cases brought under notice by attendance officer, day industrial school, medical examination of pupils at four stages of their career, report on height and weight, physical exercises—such as swimming and games—cases reported by head masters, examination of teachers and junior students, feeding and clothing of children, blind and deaf-mute children, epileptic children, and accidents at school with first-aid arrangements. The larger schools are visited every fortnight, and the smaller every three weeks. The Board has decided to examine, first, all entrants; secondly, all 9-year-old pupils; thirdly, all leavers; and fourthly, in a less detailed manner, all pupils on leaving the infant department. This involves the examination of about 4,000 children for each of these age-groups. The nurses assist the school doctor at his examinations, supervise the personal hygiene and cleanliness of the children, visit homes, and keep records. The number of pupils absent during the year owing to infectious disease was 7,086, or about one-sixth of the school population. In all matters relating to infectious diseases there is hearty co-operation between the public health department of the city and the school board's medical staff. Over 600 children were seen who were suffering from skin diseases, and these cases entailed repeated visits. Ringworm headed the list, followed by scabies, "broken out" head, and favus. Treatment forms no part of the duty of the medical staff. Parents are notified of defects found, and recommended to get medical advice. In this way 1,165 notices were issued in connexion with 3,354 pupils examined; of these notices 232 related to dirty heads, 127 to defective vision, 99 to squint, 155 to diseases of the nose and throat, 25 to ear diseases, while 527 related to other conditions, such as defective teeth, skin disease, and dirty clothing. Through the help of the Charity Organization Society necessitous school children, for whom spectacles are prescribed, are assisted. Many children visit the Victoria Dispensary for Consumption, and notice is sent to the board offices each week of children who are considered unfit to attend school either totally or for fixed periods. The number of pupils thus reported during the year was 255. As regards infectious disease, the case-incidence per 1,000 of school

board population was 96·63; of the infants, 109 had no vaccination marks. A large percentage of children examined had bad teeth, and there was a considerable percentage in which there was greater or less enlargement of gland; senior boys had bad vision in 4.5 per cent., and senior girls in 10.39 per cent. of the cases examined. At all ages except 5 years the height of the boys was below the Anthropometric Committee's standard, while at only one age—5 years—was the weight of the boys above it; the difference amounts to 6.22 lb. at 10 years. At ages of 5, 6, 7, 8, and 9 years the average height of girls was very slightly above the standard, whilst at only one age—6 years—was the weight above the standard. The average number supplied with free meals between January 10th and April 1st was 2,095.

Convalescent Home for Glasgow Poor.

The Glasgow Parish Council is about to make an interesting experiment in the treatment of infirm patients. A modern mansion near Kirn, on the Firth of Clyde, has been purchased and converted into a convalescent home, providing accommodation for 200 persons. The mansion house stands in its own richly wooded grounds of twenty acres. The enterprise will be conducted on the lines suggested by the report of the Poor Law Commission, the object being to place patients in an environment which will lend itself to more favourable treatment than is possible in the poorhouse at Stobhill, with its large and mixed population. The experiment will be watched with much interest. The mansion, known as Dunclutha, was purchased for £3,500.

Treatment of Phthisis.

The Public Health Committee of Ayr Town Council has proposed to provide accommodation in Ayr for the treatment of patients in place of transferring them, as formerly, to Bridge of Weir sanatorium at a cost of £1 a week each. The town surveyor has prepared plans to utilize three acres of ground on the south of Heathfield Hospital by the erection of a pavilion with four wards to deal with twelve advanced cases, and three open air shelters for the accommodation of six early cases. The estimated cost would be £1,359, and £100 per annum for additional staff. The Town Council has delayed the scheme pending further information on the financial aspect of the question.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

Irish Workhouse Association.

The work of the Irish Workhouse Association has, since the date of its foundation, been mainly directed towards the creation of public opinion in favour of workhouse administration reform. The Earl of Mayo, who presided at the general meeting held last week in Dublin, said that, owing to the present political situation, the introduction of a Poor Law Reform Bill during the present session was quite out of the question, and suggested that for the present the association should concentrate its efforts on bringing about an extension of the boarding-out system to children now in workhouses. This could be carried out without fresh legislation, and was a matter of urgent necessity, as 5,298 healthy children were still inmates of the Irish workhouses, while not more than 2,000 children were at present boarded out. At the conclusion of the chairman's speech the association unanimously agreed to send a deputation to the Local Government Board asking the Board to issue a circular to the boards of guardians throughout the country suggesting that they should exercise the power they possess of boarding out children.

Presentation to Dr. Francis McKee.

The many friends and patients of Dr. McKee of Dromore, co. Down, learnt with deep regret a few months ago of his sudden and severe illness, and with correspondingly sincere joy of his complete recovery. They joined together to put their feelings into active form, and made him a most handsome presentation of an antique Sheraton secretaire, a Sheraton sideboard, a George III silver tea and coffee service, and an old-fashioned Sheffield-plated tray. The presentation was made at a dinner at which Dr. McKee entertained his friends in Belfast on the evening of April 21st, when the Chairman of the Presentation Committee gave the doctor an album with the address, illustrated with local views of Dromore, and congratulatory speeches were made by many of the subscribers to the presentation and by Dr. McKee's numerous medical friends.

South Charitable Infirmary, Cork.

At the monthly meeting of the Committee of Management of the South Charitable Infirmary, Cork, Dr. G. T. Hegarty was elected house-physician, and the Right. Hon. the Lord Mayor congratulated him on his appointment, at the same time expressing on his own and the committee's behalf the regret felt that the infirmary was losing the services of Dr. Barry, the retiring house-physician. The Lord Mayor called Dr. Barry before the committee, and thanked him sincerely for the services he had rendered whilst in the institution. Each and every one of them were of opinion that his worth and his merits could not be excelled whilst in the hospital; he carried with him their best wishes for success.

Londonderry Infirmary.

At the monthly meeting of the Committee of Management of Londonderry City and County Infirmary, held on April 18th, vacancies in the staff were filled up by the appointment of Dr. H. W. Cunningham to be honorary physician, and J. M. McLaughlin to be honorary surgeon. It was resolved to ask the Secretary of the local Branch of the British Medical Association to call a meeting of the medical men to consider the desirability of augmenting the staff, and to report to the committee.

South Australia.

[*FROM OUR SPECIAL CORRESPONDENT.*]

The Medical Defence Association.

The Council of the Medical Defence Association has had a busy half-year. For a considerable time negotiations have been going on between the United Friendly Societies and the Defence Association, and lately matters have been brought to a head by the proposal to establish dispensaries in connexion with the benefit societies. No one would deny the right of the clubs (or "lodges," as they are always termed out here) to amalgamate for the purpose of establishing central dispensaries, but when they proposed to deduct some 30 per cent. of the fees paid to the medical officers, the latter strenuously resisted the proposal. The lodge doctors estimated that drugs and dispensing, nearly always contracted for by neighbouring chemists, amount to only 11½ per cent. of the fees paid to them and they were prepared to forego this amount. After many conferences and much writing, the friendly societies finally submitted an ultimatum of 20 per cent., but this the doctors have agreed to refuse. The lodges are considering what their next step will be, and probably they will endeavour to import young men from the adjacent States. In these days when the wages of the meanest labourer is 8s. a day, it is surely inconsistent to endeavour to sweat the medical profession. The only alternative seems to be for the medical profession to affiliate itself with the Trades and Labour Council which practically now governs the State through the medium of the Labour majority in Parliament.

The Medical Board.

The state of tension induced by this logomachia (no pun intended) perhaps accounts for the tendency of the profession to resent the action of the Medical Board in registering a certain Dr. H. Basedow. Both the Defence Association and the South Australian

Branch of the British Medical Association have entered serious protests. The practice has been to refuse to register German practitioners unless in addition to the degree (in this instance the M.D.Göttingen) they produced evidence of having passed the Staats-Examen, which is said to be the only examination entitling a person to practise his profession in the German Empire. This Dr. Basedow had not passed. But there were special circumstances in his case. He was not an alien or an anarchist, but a native of South Australia. He had been admitted to the B.Sc. degree in the University of Adelaide, and his only reason for not taking the Staats Examen was that he was unable to do so, not being a German subject. He could have become naturalized in Germany, it is true, but then he would have had to serve in the army and to forfeit his Australian nationality. It was also argued that he had obtained his degree in too short a time, but this was accounted for by his scientific studies in Adelaide gaining for him exemption in similar subjects in Göttingen. The board registered him under a special clause which gives it discretionary power in any doubtful case.

THE NEAL INSTITUTE FOR INEBRIATES.

The profession has not taken kindly to the establishment of a branch of this institute in its midst. Hitherto the attempts to deal with the question have been very amateurish. Patients who could afford it were generally sent to Caulfield's establishment in Victoria. The "cure" took a month at least, and cost about £50. Some seem to have been in reality permanently cured by this treatment. The Inebriate Retreat at Belair in South Australia was for a time under the charge of a Presbyterian minister, who also conducted a missionary college for young men and women. He disdained any methods of restraint, and trusted to moral suasion. The inmates could resort to the village hotel, and the only complaint I heard of was from a patient of mine who said that he was reduced to the necessity of playing chess with second-class inebriates.

Recently the Rev. A. C. Rankine, who was attending a congress of the Church of Christ in Chicago, was commissioned to investigate the methods of dealing with habitual drunkards employed in the United States of America. He found that there were many such institutions, but the one which impressed him most favourably was the Neal Institute. Briefly, its history is as follows: A physician of Des Moines either invented or improved a method of cure, and used to treat his cases in a private hospital. His success attracted the attention of a millionaire philanthropist, Senator Bruce. The senator came, he saw, and was convinced. He offered to finance the undertaking, so that the Neal method might be introduced *in partibus infidelium*, reserving a small royalty for himself as interest on the outlay. The method adopted was to break in a young physician to the scheme of treatment, then send him to establish a branch hospital, treating all who could afford it for pay, and rejecting none who were unable to pay. At the present moment I am told that there are fifty-seven such branch institutes in the United States. Mr. Rankine asked could a delegate be sent to treat the South Australian ebriosi. The answer consisted in the arrival six months ago of Dr. Soper as first missionary from the Neal Institute to Australia.

The method is simplicity itself. The patient goes into a private hospital overnight. Next morning early he takes a purge and begins to take doses of the drug. This is a liquid in two strengths, X and XX. Alternately with the hourly doses of medicine he takes his favourite "poison." If soon after this he vomits, all is well till next time. If he fails to vomit, he takes beer in addition, and perhaps tops up with a pint of saline. After a time, whilst food will be kept down, drink will come up, the medicine exercising a selective action on the stomach. On the second day the average customer begins to dislike whisky or beer, or both, and finally nothing will induce him to take either. Then he has a few more doses of the X strength, and is pronounced cured. Now, what is the famous medicine? It is asserted that it is a mixture of tr. lobelia, tr. cinchonae, tr. gentianae, and nothing else; that it has been analysed and found to contain nothing else. If so, it is a very simple and very harmless method of cure. But does Dr. Soper, does any one, except Dr. Neal himself, know the contents? And assuming the statement to be correct, what is the *modus operandi?* Is it faith healing, or is it some subtle, though permanent, impression made upon the vomiting centres?

Now as to results. I have seen cases in which the cure has certainly lasted six months, and the patients are themselves quite satisfied as to its permanency. Dr. Soper estimated the cures at 95 per cent., but there have been already more than this number of relapses. The immediate effects are certainly very remarkable, and I have myself seen men and women looking very fit and fresh when leaving the hospital after the three days' sojourn. The moral influence seems to be great; they seem to realize that they are once more decent members of society, and no longer swinish drunkards.

The profession has two chief objections to this method of treatment. In the first place, they say that this is a secret remedy—probably it is—and in the second place they argue that any one that uses it is a quack. They do not make any allowance for the difference in ethics which obtains in America. On the other hand, they cheerfully consign their patients to Caulfields, where the treatment is also by means of a secret remedy. It is contended that the medical profession has signally failed to cure inebriety by legitimate means, and ought not to resent the introduction by a Government of a method which may result in half emptying our gaols.

The Australian rights are in the hands of a Mr. Holliday, who employs Dr. Soper as his physician. It is intended that the method shall be introduced into the other States, and ultimately that its beneficent prospects shall be offered to the United Kingdom.

Transvaal.

[*FROM OUR SPECIAL CORRESPONDENT.*]

MINING REGULATIONS.

THE report of the Mining Regulation Commission of the Transvaal Colony[1] has just been issued in two parts, the first containing the report itself, and the second the minutes of evidence. In the report there is a list of the laws and ordinances relating to mining and the Consolidation Act of 1909 With regard to phthisis (including miners' phthisis) amongst white mining males aged 20 and over, it is stated that the deaths from this cause during the three years 1905–07 were 43.1 per cent. of all deaths. "Other respiratory diseases" account for a further 17.9 per cent., making a total of 61 per cent. from "all lung diseases"; the comparative figures for non-mining males at the same age were 10.2, 15.8, 26 0. The death-rate from phthisis (including miners' phthisis) at ages of 20 and over was more than six times greater amongst white mining males than amongst white non-mining males, the death-rate per 1,000 being 6 0, 5.3, 6.4 for the triennium. With regard to miners' phthisis, figures show that between October, 1899, and January, 1902, the war being in progress and mining operations suspended, the death-rate amongst men who had been employed in the Transvaal as rock drillers before the war was no less than 73 per 1,000, and this during a period when the great majority were not actually engaged in rock-drill work. The average age of rock drillers dying from silicosis in the Transvaal was 35 years, and the average period of rock-drill employment was 7 to 9 years.

[1] Transvaal Colony: Final Report of the Mining Regulations Commission, appointed under Government Notice No. 537 of 1907. By F. E. T. Krause, LL.D., M.L.A., Chairman; Charles Porter M.D., Medical Officer of Health, Johannesburg; and Alexander Feymann, M.A., Consulting Analytical Chemist and Metallurgist. Pretoria: The Government Printing and Stationery Office. 1910.

As to preventive measures, attention is directed to (1) prevention of dust inhalation, (2) prevention or removal of noxious fumes resulting from explosives, (3) prevention of tuberculosis. The Commission is strongly of opinion that all persons, white or coloured, suffering from tuberculosis should be excluded from underground mine work. The death-rate amongst natives was high in 1902–3, but it differs from that of white miners in being due more to climate than to occupational causes. Improvements have been effected since that date in respect to methods and seasons of recruiting, medical inspection and supervision, housing, diet, working conditions and hospital accommodation, and there has been a steady decline in the native death-rate, but it is still high compared with European standards. Natives from temperate regions excepting Basutoland have a low mortality. Those from subtropical and malarial areas show a slightly higher death-rate, but those from purely tropical districts show very high death-rates, pneumonia being the most important direct cause of this excessive mortality.

Ankylostomiasis appears to be present in a considerable proportion of the freshly recruited native labourers, but it is stated that the disease has not caused trouble amongst European miners (except on one property), nor have the natives reinfected themselves to such an extent that any large numbers of them have been incapacitated for work. Having regard to the amount of infection, it would appear that the eggs of this worm when passed by natives do not develop into larvae in the mine workings. There is some reason for believing that this is due to the fact that in mines having water with an acid reaction a natural process of disinfection is continuously going on. Further, the great depth of the mine and the consequent low temperature are against the development of ova, which require moisture and a temperature of 77° F. for development.

There is no statutory obligation on employers to provide hospital accommodation for white employees. These workmen usually form benefit societies, and have as their medical officer the medical man who is retained by the employer for the purpose of looking after the natives. Under the Coloured Labourers Health Regulations, 1906, every mine owner is required to provide sufficient and suitable hospital accommodation for the labourers.

There were 81 fatal gassing accidents resulting in 279 deaths in 1904–7, the dangerous gases being CO_2, CO, NO.

On the matter of housing accommodation the report does not favour State aid in providing houses for employees.

The report adopts the view that Kaffir beer properly made and consumed in moderation is a wholesome and permissible beverage for natives who are accustomed to it. Its manufacture should be under supervision. The committee approves of an eight-hour working day, and weekly pay days for underground workers.

Attention is called to the great importance of the provision of first aid and the use of appliances for the injured.

It is recommended that a medical inspector of mines should be appointed. There is also a recommendation that the operation of the Workmen's Compensation Act should be extended to coloured employees in the mines, and that the cases should be adjudicated on by a magistrate, with the assistance of one or two medical assessors. The report is a most valuable document, and worthy of careful study. We heartily congratulate the Commission on a splendid piece of work.

IT is proposed to establish a library for doctors at Lyons. It is intended that the library shall be a centre of meeting for medical practitioners. In connexion with the library there are to be lecture rooms and laboratories. The social side of medical life will not be overlooked, for a refreshment room, a billiard room, and other elements of a club will be provided. The entrance fee is to be £2, the annual subscription between 16s. and 17s.

Special Correspondence.

BUDAPEST.

Tuberculosis Exhibition in Budapest.—The Action of Baths on the Heart.—Increase of Insanity in Budapest.—The Inspection of Public Schools.

THE present widespread interest in consumption, manifested by the great number of antituberculosis dispensaries and associations which are being formed all over the country and by the increasing desire on the part of the public to better the condition of phthisical patients, has inspired the National Association for the Study and Prevention of Tuberculosis (a branch of the Charity Organization Society) with the idea of organizing a tuberculosis exhibition, which will be held at Budapest in 1912. The main object of this exhibition is to show by means of photographs, diagrams, and models exactly how far science has progressed in its struggle with the great white plague and how much still remains to be accomplished.

At a recent meeting of the Balneological Society, Dr. Bossányi read a paper on the action of baths on the heart, in which he laid stress upon a fact first observed by T. Strassburger—namely, that baths of all kinds have the same effect upon the systolic blood pressure, which first rises, then falls, and then rises once more. It is the depression that is usually most marked and constant, and after the bath there is generally a second depression. In the case of cold baths the initial rise is more pronounced, and with hot baths the secondary. A temperature of 90° or 95° F. causes the least noticeable fluctuations; below this temperature the pulse is slowed, and above it accelerated. The diastolic blood pressure, whilst subject to the same laws as the systolic, does not act in identically the same way in other respects. For instance, the cardiac action, which is greatly stimulated by a bath of 107° F., is only slightly stimulated by a temperature ranging from 90° to 104° F. In the case of carbonated baths the systolic pressure presents the same peculiarities; the pulse is slowed less during and more after the bath, and the volume of each cardiac contraction is considerably increased. In concluding his address, Dr. Bossányi remarked that hot baths demand more work from the heart in every way, whilst cold baths should be regarded as conducive of cardiac exercise, together with the preservation of cardiac energy. Carbonated baths have precisely the same effect as digitalis, without, however, causing contractions of the vessels.

According to the report of the Statistical Bureau, insanity has greatly increased in Budapest during the last ten years. This report shows an average increase of 190 cases for each year; and last year it rose to 214, the total number of patients accommodated during the twelve months (including such as were sent in from the Province of Pest) amounting to 4,500. The result is that there are some 1,500 patients more than the city hospitals can hold, which has led to great overcrowding and inconvenience. An explanation of the present state of affairs is given in the report of the City Charities Aid Association, in which it is said that "much of the present overcrowding in lunatic asylums is due to the modern treatment, which arrests the progress of the disease, improves the general health of the patient and thus lengthens his life; the public esteem and confidence enjoyed by these institutions, and also the advance of medical science which, in safeguarding mankind from the ravages of disease, gradually lowers the death-rate and thus keeps alive many who, in former years, would have died in childhood."

Judging from the reports presented to the Board of Health, the medical inspection of public schools has already been of great value, not only to the school children, but to the public at large. During this, the first, year the medical inspectors have paid nearly 5,000 visits and examined some 30,000 children, of whom 2,500 had already been set aside by the school authorities as possible transmuters of disease. Two hundred and nineteen cases of unvaccinated children were discovered (vaccination being enforced in every instance), and it was found that, owing to disease, 715 children were excluded from the schools. The most common disease amongst school children has been found to be defective vision;

and many children who, because they were unable to see words and figures on the blackboard, were looked upon as stupid and backward have proved as intelligent as most children of their class when provided with proper glasses. This work of school inspection was started a year ago through the efforts, and under the supervision, of the late Dr. Chyzer, the State Secretary for Public Health.

Correspondence.

THE MATHEMATICS OF MALARIA.

SIR,—With regard to your reference in the current number of the JOURNAL to this subject, may I point out that it was opened in my Report of the Prevention of Malaria in Mauritius in 1908, and further developed in my book on the *Prevention of Malaria*, of which, indeed, it forms the basis? You say that a writer in the Indian publication *Paludism* "questions the biological postulates" furnished by me. I have stated repeatedly that my postulates were, in the absence of exact knowledge, merely conjectural; but the writer in question gives no evidence whatever in support of his statements, which appear to be scarcely worthy of so much attention. The reason why repeated bitings of mosquitos are omitted from my equations is already given on page 164 of my book. I am much obliged to Professor Karl Pearson and Mr. H. Waite, M.A., B.Sc., for having taken so much interest in the subject, but have only just recently found the time to study the latter gentleman's very interesting contribution, which was written independently of my book, though not of my report. He admits that "there is complete agreement between us on the essential and fundamental points," and that my simpler methods "give results which are sufficiently accurate for practical purposes." In fact, my equation for "static malaria" (eq. 7, p. 161 of my book) is the same as the first term of his (eq. 111, p. 430 of his article in *Biometrika*, vol. vii, No. 4). The greater complexity of his formulae is, as he perceives, due to his having given a more continuous variation to the recovery and malaria rates among the human beings, while I adopted a fixed time unit of one month for my difference equation. There seems to me to be, however, some fallacy here, because he continues to accept my month unit for the number of infecting bites (n)—that is, for the malaria rate among the mosquitos. This has the effect which he describes, namely, that it makes both the increase and the decrease too slow. I purposely adopted a fixed time unit for all the variables together, and purposely made it one month in order to allow time (so to speak) for the parasites to mature in the mosquitos, and to develop a sufficient number of sexual forms in the men. But, as Mr. Waite says, our results are at present only tentative and suggestive, and I have reached a much fuller analysis since last year. Perhaps the most important point elicited is that a very small rise in the number of *Anophelines* above the no-malaria limit—a rise which would never be appreciable by the public—would produce a severe epidemic (my book, page 200).

Allow me to endorse very heartily your remarks regarding the utility of mathematics in medicine. Epidemiology is in fact a mathematical subject, and fewer absurd mistakes would be made regarding it (for example, those regarding malaria) if more attention were given to the mathematical study of it.—I am, etc.,

University of Liverpool, April 22nd. RONALD ROSS.

HEART FAILURE.

SIR,—The opinions of Dr. James Mackenzie deservedly command general attention. It is therefore important that they should be carefully weighed; and, while there is much in his recently delivered Oliver-Sharpey lectures that will be received with assent, there remain some statements which cannot be accepted without question or qualification.

For example, one would gather from Dr. Mackenzie's first lecture (April 4th) that functional murmurs and irregularities of heart frequency, especially in the young, should not only not be regarded seriously but looked on as positive evidence of a healthy heart. That contention appears to be largely based on the fact that in medical literature there is no record of any one so affected suffering from heart failure. I agree with Dr. Mackenzie that medical literature betrays signs of weakness from the clinical point of view, but five and twenty years of general practice, and more than fifteen in which attention has been mainly devoted to cardiac affections, have led me to conclusions differing from his. There are degrees of heart failure, and among boys and adolescents such symptoms not infrequently lead to abstinence from the more active pursuits and games enforced not by a doctor's academic opinion, but by positive distress and disability. In less pronounced instances they are the prelude and accompaniment of undue fatigue on exertion, of a general slackness, and of loss of power of mental concentration. In fact, they convey a note of warning, and, in a large proportion of instances, may be traced to a chronic autotoxis of the rheumatic or of the gastro-intestinal order, which is amenable to treatment to the great advantage of the patient.

Another matter to which I desire to call attention is Dr. Mackenzie's exclusive reliance on treatment by rest and his curt dismissal of baths and exercises as therapeutic agents. The daily experiences of those who have given the best years of their life to the study and practice of such methods afford proof of their pre-eminent value. Allow me to cite one example. A lady past middle age had been confined to her bed for several weeks by an enfeebling malady and heart weakness, with steadily increasing pulse-frequency, which had recently culminated in accesses of heart failure occurring during sleep or at the moment of waking, so severe as to suggest impending death. Four gently resisted exercises of the hands and arms, administered in the recumbent position, induced a fall in pulse-frequency from 120 to 92, doubled the volume of the pulse as judged by the finger, the sphygmograph, and the manometer, and brought a sense of precordial relief. Such results, which might be indefinitely multiplied, are not to be accounted for on psychic grounds.

I, for one, cannot admit that the teaching of Stokes, systematized by Oertel, and brought to a science by Schott, to which thousands owe their relief from suffering and return to health, may be lightly cast aside.—I am, etc.,

London, W., April 24th. W. BEZLY THORNE.

APPENDICITIS AND APERIENTS.

SIR,—Whilst I read with considerable interest Mr. Moynihan's address on abdominal emergencies in the JOURNAL of April 1st, I hardly expected to meet, a few days later, with the following case, which illustrates well certain points to which he has drawn attention:

I was called on April 5th to see a boy of 14 who had been ill since April 3rd. On the forenoon of that day he partook of some raw cabbage plants and then of a dinner of pork. Shortly afterwards, walking in a field, he was seized with a sudden acute pain in the abdomen, and vomited once. He was put to bed with a poultice applied to the painful area. On April 4th he was altogether better, but his mother deemed it advisable to give him a large dose of castor oil, following it up in the evening with a seidlitz powder. Next morning his pain was worse, and as the greatly desired catharsis had not yet taken place some cascara was administered. The bowels then moved several times, but no improvement resulted. Summoned at noon, I diagnosed appendicitis, and recommended immediate operation. There was pain all over the lower part of the abdomen and the usual localized tenderness and rigidity. Temperature, 99°; pulse, 80. At 1 p.m. he was suddenly taken with an agonizing pain, and on my return shortly afterwards prepared to operate, I found the tenderness and rigidity becoming generalized, the temperature 100·5°, the pulse 100. I cut down at once, to find a gangrenous appendix adherent to the ileum and caecum, and having a pinhole perforation in its side. Thanks to free drainage and continuous proctoclysis the boy is making a good recovery.

The case is an isolated one, but I think it shows how perforation may be brought about by the use of purgatives. It is surprising to find that there are still practitioners who pin their faith to saline aperients and the like when they ought to be boiling their instruments or summoning a surgeon. The necessity for a correct diagnosis, however, can scarcely be too strongly urged. What is wanted at the present time is not so much a fierce contest between physicians and surgeons over methods of treatment as a clearer conception of those conditions which are diagnosed as "a threatening of appendicitis." Some of these may

be amenable to medicinal measures, but if the appendix is diseased the treatment is surgical. Not only does my experience extend over a considerable number of cases personally attended, but I have been myself a victim, and in my case the operation put an end to persistent "indigestion," for which no other treatment had been of any service, so that my point of view can hardly be termed one-sided.

Mr. Moynihan has sounded a timely note of warning, and the rational treatment of appendicitis may now be summed up briefly in the words—Diagnose accurately, avoid aperients, withhold food, and operate early.—I am, etc.,

Lanark, April 12th. DOUGLAS J. GUTHRIE.

THE PSYCHOLOGY OF HUMOUR.

SIR,—In an article on humour in the JOURNAL of March 25th you seem to accept Herbert Spencer's interpretation of the physiology of laughter—namely, pent-up nervous energy diverted into an irregular motor channel. Now this is a curt and rather contemptuous way of dismissing it. If we follow up the matter a little more closely we find that many, if not all, conscious states, whether of knowing or doing, are accompanied by a feeling of either pleasure or pain; that these two great fundamental feelings underlie all the more complex ones, such as joy, sorrow, fear, hope, happiness, and misery; that we seek those things that give pleasure and avoid those that give pain; and that we do certain things for the pleasure alone, without any other motive. This is called amusement, recreation, fun; and of this nature is making jokes or jests, the product of wit and humour.

Now, impressions of pleasure or pain tend to produce certain specific reflexes. Pain causes, in addition to more occult effects on the vessels, etc., the muscles to get taut, the respiration to become slow, sighing and spasmodic, with a tendency to cry out, and, if the stimulus be very severe, the whole body to twist or writhe in agony. Tears are also a very common accompaniment, and as this is also the response to eye irritation, they may be due to our sorrow being fed by visual imaginations. On the other hand, certain non-painful impressions, such as tickling the skin, may cause the respiration to assume the spasmodic rhythm, with its vocal sound we call laughter, and perhaps cause other acts indicative of the feeling. The more complicated emotions tend to reproduce these reflexes, in a manner analogous to the psychic secretion of gastric juice, but modified more or less by the character of the emotion.

Both laughing or smiling and crying indicate to others our feelings in a way with which words cannot compare, and at the same time appeal to have them reciprocated.

Purring in the cat, and wagging the tail and barking in the dog, seem to some extent to be analogous to laughter. On the psychological side wit and humour is the faculty of seeing and pointing out jests or jokes—that is, things said or done to amuse, and not to be taken as meant seriously or literally. And this quality of having a meaning at variance with that at first said or suggested, or of showing up a relationship at variance with what we expect or are led to believe, is the essential of the jest or joke. The incongruity is not so much in the things themselves as in what we expect about them, and so has always more or less an element of surprise. At the same time the more subtly, and as it were by accident, the incompatibility is brought out, the greater is the effect.

Thus it may be a joke if we banter a person with having qualities the opposite to those that he has, and so suggest the real ones.

By the way, if these qualities happen to be bad ones, so that the laugh is at or against the person, this is called sarcasm. And in all cases this faculty of turning the laugh against some one seems to be the distinction between wit and humour.

Again, to the question if A. is a brother to B., is B. a brother to A.? the answer is B. may be a sister. Now here is a cold fact, but the suggestion in the question that B. is a brother is so strong, that we look upon it as a jest. Lastly, as you say in your article, most philosophers are not at all humorous. But perhaps for that very reason they all render themselves the more liable to be made a source of innocent merriment; from the most extravagant guesses or intuitions of Herbert Spencer, to Kant or Hegel playing elaborate matches, with fitless finger stalls, on a cloth untrue, with a twisted cue, and elliptical billiard balls.—I am, etc.,

Castlewellan, March 31st. HUGH JOHN MCNABB.

THE INFECTION OF CHICKEN-POX.

SIR,—The following case of chicken-pox is of interest from the length of incubation and the complication of measles.

L. D., a healthy girl of 6 years, was visited by an aunt, accompanied by her two children who were in the scabbing stage of chicken-pox, on February 5th. My patient was at that time in fair health, but suffering from what her mother thought was a slight cold. On February 11th the rash of measles appeared on her, and she had a severe but uncomplicated attack. On March 12th the rash of chicken-pox appeared. The child had not been out of doors, had not been visited again by any one from the chicken-pox-infected family, nor by any one else who could convey the infection, but two letters had come from the aunt—one on February 12th and another on February 20th, but the mother is certain they were not handled by the child, so that if infection came from the contact, we have contact February 5th, measles February 11th, and chicken-pox March 12th—that is, thirty-five days for the incubation of the chicken-pox. Authorities differ very much in their statements as to the length of duration of incubation of chicken-pox, but I do not think any give it longer than twenty days.

What is the explanation? Is it possible the infection was conveyed by letter? I think it very improbable, as the infection would have almost ceased at the date of receiving either letter. Was it an example of the old law that two infectious fevers never appear at the same time in any individual, and that the germs of the chicken-pox remained dormant but active in the child's system until the measles had quite left her? I think the latter explanation is the more feasible, but I would be glad of the opinion of others.—I am, etc.,

Chelsea, S.W., April 17th. JAMES HAMILTON, M.D.

THE HONOUR OF THE MEDICAL PROFESSION.

SIR,—I am glad to see a letter from Mr. Lewis Morgan, of Cardiff, a distinguished member of the legal profession, making suggestions regarding changes in the law to remedy the grievous and anomalous position in which medical men find themselves as defendants accused of negligence; changes which not only would not prejudice but safeguard the interest of the public. The fundamental principle referred to in Mr. Morgan's letter is based on the maxim that a person should be tried by his compeers—that is, by men who have intimate knowledge of the subject in dispute. In nautical and Admiralty affairs men are selected as assessors from their special knowledge of the matter in respect of which the inquiry is being instituted. The same principle applies, and is being observed in military, and to some extent ecclesiastical, matters. Why, therefore, exclude the medical profession from being similarly treated to the professions mentioned? It seems to me from an experience of a varied public life, apart from my profession, that it would be quite as ridiculous to expect a jury of laymen to arrive at a just conclusion, and give a correct verdict on intricate medical and surgical technicalities, as to expect them to do so on questions appertaining to the above professions. Why, therefore, should not the serious charge of negligence against medical men be submitted to a jury of medical experts, or, if not to such a jury, to a court where independent medical assessors sit and advise?

I was specially interested in the leading article of February 18th last under the above heading, inasmuch as it was the outcome of a correspondence started by Mr. J. Lynn Thomas, an old pupil of mine, who served his apprenticeship under me as far back as 1879. I followed carefully the now celebrated Cardiff case in which he was put in the humiliating position of having to defend himself against a charge of negligence. Had he allowed Dr. Skyrme to use splints according to the orthodox teaching of English textbooks, there would, in all probability, have been no lawsuit, and the result to the patient would not

have been so satisfactory according to the teaching and practice of eminent medical men such as Dr. Lucas-Championnière, President of the International Society o Surgery, and Sir William Bennett. I venture to think that the law respecting charges of negligence as it stands at present is not only a sprag on the wheel of progress in medical science, but is also detrimental to the benefit of the public generally.

To illustrate my meaning, I may indicate the risks that the great Lord Lister ran in his experiments upon patients in the early days of antiseptic surgery. The rare but occasional occurrence of gangrene following the application of carbolic acid lotion would have been a plausible case for charge of negligence *before his system became orthodox.* Another pointed illustration which at the moment strikes me, is that of the case of paralysis, and even gangrene, resulting from Esmarch's elastic tourniquet. This method of treatment is now orthodox.

What the public are now given to understand is that departures from, and the application of, recent scientific discoveries in surgical treatment are actionable at law, and equivalent to negligence, as long as it does not conform to, and is not on all-fours with, English textbooks. The law as thus laid down would logically deter and involve in litigation such men as Lord Lister, whose great discovery and new methods of treatment have been the means of saving millions of lives.

Another right I claim in the exercise of my profession is freedom of action to use my judgement in giving my opinion in cases where "Sir Oracle" and "Mr. Too-fond-of-the-Knife" happen to disagree. As an illustration of this personal right, which Locke has so well indicated, I would give the case of the sigmoidoscope referred to in the previous correspondence in the JOURNAL, under "Swabs in the Intestines." Whether I would follow the views expressed by my old pupil, Mr. J. Lynn Thomas, in the above case or those of Mr. Swinford Edwards, of whom I have no personal knowledge, would be entirely a matter for my own judgement.

In conclusion, I would revert to the soundness of the remarks in Mr. Lewis Morgan's letter—namely, "Questions of this nature . . . should not be settled by a jury of laymen." I therefore feel sure that every member of the profession appreciates your advocacy of a change in the law which is so sadly needed in the interests of justice, not only to ourselves, but also to the public generally.—I am, etc.,

J. POWELL, J.P., M.R.C.S., etc.,
Chairman of the Cardiganshire Joint Standing Committee, etc.
Newcastle Emlyn, April 24th.

THE DR. COOKE FUND.

SIR,—Will you allow me through your columns to express on behalf of the Committee my warmest thanks to the medical profession for the magnificent response which they have made to our appeal, and my real regret that, by reason of the overwhelming number of sympathetic letters, it has been impossible at present to reply individually in each case as was wished and is intended. To all donors I believe a banker's formal acknowledgement has been sent, but this shall be supplemented at the earliest moment; meanwhile I would ask the indulgence of the many most generous contributors, to whom I and those associated with me are more grateful than we can express.—I am, etc.,

JOHN R. HARPER,
Barnstaple, April 21st. Treasurer.

THE following have been elected Honorary Fellows of the Royal Sanitary Institute; Dr. F. Bumm, President of the Kaiserliches Gesundheitsamt, Berlin; M. Albert Calmette, Professor of Hygiene and Bacteriology, University of Lille, France; Dr. Chantemesse, Professor of Hygiene, University of Paris; Dr. James A. Egan, Executive Officer, Illinois State Board of Health; Dr. Dittmar Finkler, Professor of Hygiene, University of Bonn; Dr. C. Flügge, Professor of Hygiene, University of Berlin; Dr. Joseph König, Professor of Hygiene, University of Münster; M. C. L. A. Laveran, Professor of Microbiology, Pasteur Institute, Paris; M. Louis Martin, Director of the Laboratory of Sero-therapy, Pasteur Institute, Paris; Professor Elie Metchnikoff, Assistant Director of the Pasteur Institute, Paris; Professor E. Roux, Director of the Pasteur Institute, Paris.

Medico-Legal.

MEDICAL EXAMINATIONS UNDER THE COMPENSATION ACT.

AMONG the practical questions arising under the Workmen's Compensation Act is that which concerns the place where the examination of an injured workman is to be held. For the busy practitioner, of course, the most convenient place is his own consulting-room; but it is obvious that in some cases—as, for instance, where the patient is seriously injured—he must be examined in hospital or in his own home. The question is whether, if the applicant for compensation is able to leave home and attend at the doctor's house, he can be compelled to do so. This is one of several interesting points in relation to this subject which have recently been decided in the courts, and an examination and summary of the relevant cases may be useful.

The Act provides that, after the workman has given notice of an accident, he must submit to examination or be held not entitled to compensation. The actual words are that "he shall, if so required by the employer, submit himself for examination by a duly-qualified medical practitioner, provided and paid by the employer, and, if he obstructs the same, his right to compensation and to take or prosecute any proceeding under this Act in relation to compensation, shall be suspended until such examination has taken place" (Schedule 1 (4)). This section makes no provision as to the place where the examination is to be held. By virtue of Schedule 1 (15) a workman who is receiving weekly compensation must also submit to examination from time to time.

The regulations drawn up by the Secretary of State provide that the examination shall be "at reasonable hours," and that after the first month he shall not be required to submit himself for examination by a medical practitioner provided by the employer except during the second month, once a week; from the third to the sixth month, once a month; afterwards every two months. A further examination may be held if any application has been made for a review. It appears that there is no need for the workman to have any notice of the intention to examine; at least that is the opinion of His Honour Judge Mulligan. A complaint was made at Swaffham County Court, during the hearing of a workman's compensation arbitration, that the doctor for the respondent had made a surprise visit. His Honour said that the doctor acted quite properly, and that such visits might be necessary when malingering was suspected.[1]

The Legislature having failed to specify where the examination is to take place, the courts are left to ascertain for themselves whether the refusal of a workman to be examined at any particular place constitutes an "obstruction" of his examination. Two cases which were heard in the Court of Appeal last November have an important bearing on the matter. In one of these, payments having been made to a man for some time, his employers considered him fit for light work, but before stopping payments they wished to have him further examined. They asked him to attend for this purpose at the house in another part of London of the medical man (Dr. Collie) selected by them, offering to pay his fare. The workman's solicitor replied that the examination must either take place at his office or at the surgery of the doctor who had attended the workman. The county court judge held that the man was not unreasonable in refusing to go to Dr. Collie's house, and the Court of Appeal refused to disturb his finding. Lord Justice Farwell interjected the remark: "The solicitor's letter claiming the right to have the man examined at his office is simply preposterous." With reference to this decision it will, of course, be competent for any county court judge to come to a directly contrary finding in another case. We have little doubt, for instance, that if both doctors lived in the same part of London a visit to the employer's surgeon would be made compulsory.

The remark made by Lord Justice Farwell about the solicitor's office was followed up in another case. There a workman in receipt of compensation was required by his employers to submit himself for examination. The workman refused unless the examination was at his solicitor's office or in his solicitor's presence. The employers repeated their request, stating that the workman's medical adviser might attend at the examination. The workman again refused unless his conditions were complied with, and it was held that his refusal was unreasonable. From the full report of this case it appears that the reason why

[1] Purves v. Hayward: Swaffham C.C., Judge Mulligan, 125 L.T.J. 10.

examination at the house of the employer's doctor was objected to was that he was alleged to have behaved with brutality to applicants whom he examined and to have "treated them like dogs." His Honour Judge Bray, who tried the case, said that there was no foundation for the charge of brutality. It was also alleged that the doctor had improperly examined a workman behind his solicitor's back. This allegation was also found to be untrue. The Court of Appeal affirmed the county court judge. A further point incidentally decided in this case was that the workman cannot insist upon being examined in the presence of his solicitor or his representative. Judge Bray pointed out that what the solicitor could do to protect the applicant during the examination could be equally well done by his medical adviser.

To sum up the result of these cases: The employer's doctor cannot always insist on conducting an examination at his own surgery, but he is justified in refusing to examine a workman in a solicitor's office or in the presence of a solicitor. For the part which he has taken in obtaining definite pronouncements on these points, the profession would appear to be under considerable obligation to Dr. Collie.

VISION TESTING.

THE Royal Navy demands normal vision in each eye tested separately VR and VL = $\frac{6}{6}$. In the United States navy gun layers must have V = $\frac{6}{6}$ in the sighting eye. The army regulations are not so severe, but even here good vision in one eye is essential. The usual test is Snellen's card at a distance of 20 ft. in a good illumination. This latter is very important, for the ability to read a test line decreases proportionally to the cube root of a diminishing light intensity. It is, therefore, essential to avoid unfairness that a standard artificial illumination be used in testing candidates for the navy. The best results are obtained with a light of between 30 and 50-metre candles. There are two grave objections to the test types in general use. One is that the letters in charts obtained from different firms vary greatly in size. Grow (*Ophthalmology*, January, 1911) collected thirty charts and found that the size of the letters, which should be seen at a given distance, was different in every one. Thus the $\frac{6}{6}$ line, the letters varied from 7.4 mm. square as a minimum to 10.6 mm. square as a maximum. On our own chart they measure 9.5 mm. square. Snellen found that a letter which subtended an angle vertically and horizontally of five minutes (the component lines of the same subtending an angle of one minute) was a fair test of normal visual acuity. This is known as Snellen's principle, and is generally accepted as a standard in all countries. Snellen expressly stated that many people have a greater acuity than this. With good electric illumination nearly every ordinary individual can easily read $\frac{6}{4.5}$, and a few—very few—$\frac{6}{3}$, or double Snellen's normal. But the question may be at once asked, Should the length of the letters be measured along the chord or tangent of the angle? In America it is usual to strike a mean and use twice the tangent of half the angle of five minutes. For 20 ft. this gives 8.86 mm. as the correct size of the letters. A candidate, then, should be required to read letters of this size at a distance of 20 ft., the letters being Gothic, not block, and clearly printed in black on a white card. The letters should be illuminated by a light of the intensity of 40-metre candles. The second even greater objection to the generally used test types is that the letters can be, and frequently are, memorized. Grow has overcome this fault by printing a square chart of letters, mostly of 8.86 mm. square (for naval purposes the larger letters are of no use), with two or three lines of still smaller print. These are placed behind a board, which has in it a horizontal and a vertical slot. The letters can be slid behind the slots in two directions; thus any possible combination can be shown, and it is impossible for fraud to succeed.

MIDWIFERY FEES.

DR. A. H. HEADLEY HUCKLE (Middle Temple) writes: In the BRITISH MEDICAL JOURNAL for March 11th, 1911, p. 602, is an editorial reply to "J. B. W." asking if a medical practitioner is legally entitled to claim a fee for a confinement for which he had been engaged but for which he was not summoned. With all due deference to the editorial reply, may I make a further reply which may possibly be of interest to the profession generally? Your reply is perfectly correct in that a contract properly entered into, if of a lawful character, cannot be voided, except by the mutual consent of the parties. An action will also lie for breach of such contract. You say that you know of no specific cases recorded, and that generally speaking, it is not the habit of the profession to sue for fees in such cases. As a matter of fact, in an ordinary midwifery booking or agreement no legal contract exists, but merely an informal agreement or promise, or what is termed in law a "naked pact." The rule is, and has been ever since the time of ancient Rome, that a simple contract, that is, word of mouth, or even a written word not under seal, must have a valuable consideration, as opposed to a good consideration to support it. The maxim always having been, "*Ex nudo pacto, non oritur actio.*" A contract to be a legal contract, then, must be either a document under seal, or, if a verbal contract, valuable consideration must have passed. This is seen in the deposit required on a contract to buy a house, or the money demanded when ordering a new motor car, which deposit makes the agreement a legal contract. If the medical practitioner drew, say one shilling, as a "booking fee," the promise to attend would become a legal contract and not a mere pact, and an action would lie if either party broke the contract.

FEE OF LOCUMTENENT.

T. L. W. writes that he was engaged as a locumtenent for the junior partner of a firm of doctors, and at the request of the other partner went down to see him; the engagement was then confirmed, and he was told it would be for three weeks. When subsequently he went to commence his duties he was told he would not be required, as it was found that the senior partner would be able to carry out all the necessary work. He was paid half a week's fee as a compensation, and would like to know if this was equitable or legal.

*** Assuming that the circumstances are fully and correctly stated, our correspondent would seem to have been entitled to a week's notice, or one week's fees in lieu of notice.

A CORONER AND *POST-MORTEM* EXAMINATIONS.

T. writes: I am a house-surgeon to a general hospital. An old man with a fractured femur died after many weeks in hospital, and it was impossible to assign a cause of death. At the inquest I stated this and was censured by the coroner for not communicating with him previously and asking for a *post-mortem* examination. Was I legally bound so to do? I referred the case to him but without comment.

*** There is no obligation on the part of a medical practitioner when reporting a death to the coroner to inform him that he is unable to assign the cause of death, although it is common practice to do so. On a coroner receiving notice of a death he usually sends his officer to make preliminary inquiries, and if the officer sees the medical practitioner in attendance on the deceased during life or called at or after the death, he ascertains whether the cause of death is or is not known. The medical witness summoned to give evidence at the inquest may be asked as to how, in his opinion, the deceased came to his death, and the coroner may, either in his summons for the attendance of such medical witness, or at any time between the issuing of that summons and the end of the inquest, direct the medical witness to make a *post-mortem* examination of the body. If, as it appears to us, the coroner's preliminary inquiries were incomplete, he should, on holding the inquest and finding the evidence insufficient to assign a cause of death, have directed an examination to be made as provided for by statutory law, instead of censuring our correspondent.

Universities and Colleges.

UNIVERSITY OF LONDON.

MEETING OF SENATE.

A MEETING of the Senate was held on March 29th.

Recognition of Teachers.

The following were recognized as teachers in the subjects and at the institutions indicated:

Physiological Laboratory, University of London.—Mr. William Legge Symes (Physiology).

King's College.—Dr. F. S. Locke and Dr. A. W. Sikes (Physiology).

London Hospital Medical College.—Mr. R. J. Howard, Dr. R. Warren, Dr. R. Milne (Clinical Surgery), Dr. O. F. F. Grünbaum (Pharmacology).

London School of Tropical Medicine.—Mr. H. B. G. Newham (Tropical Medicine).

Honours in Psychology for Internal Students.—It was resolved that the examination in psychology for the B.A. Honours Degree in Psychology for internal students (Red Book, September, 1910, pp. 84–86) consist of six papers as follows: Two in general psychology, two in experimental psychology, one in comparative and abnormal psychology, one in essays, and two practical examinations, and that the examination in the subsidiary subject consist of two papers, or one paper and a practical examination if the subject chosen is one wherein a practical examination is desirable.

Emeritus Professor at University College.

The title of Emeritus Professor of Clinical Medicine at University College was conferred on Sir Thomas Barlow, Bart., K.C.V.O., M.D., F.R.S.

BROWN ANIMAL SANATORY INSTITUTION.

The annual report of the Superintendent of the Brown Animal Sanatory Institution stated that 5,485 animals had been treated as out-patients and 688 as in-patients during 1910. The five lectures required under the will of the late

Mr. Brown were delivered by the Superintendent, Mr. F. W. Twort, in the Physiological Laboratory of the University. The first three were on the lepra bacillus and the bacillus of Jöhne's disease, the fourth was on tubercle bacilli isolated from man, and the fifth was on some experiments on creatin, etc. The number of bacteriological and pathological examinations carried out in the laboratory on material obtained from the hospital had been greater in 1910 than in the previous year. Various malignant growths, inflammatory products, and other materials had been investigated. Particulars were also given of experiments which had been carried out.

External Examiner in Sociology.

Dr. W. H. R. Rivers, F.R.C.P., F.R.S., was appointed External Examiner in Sociology for the year 1911–12.

Dean of the Faculty of Medicine.

Professor S. H. C. Martin, M.D., F.R.S., has been elected Dean of the Faculty of Medicine for the remainder of the period 1910–12.

Appointment of Representatives.

The following appointments have been made:

Mr. L. V. Cargill, F.R.C.S., Governor of King's College School, Wimbledon.

Mr. F. T. Travers, M.B., B.S., Governor of Maidstone Grammar Schools.

Dr. E. Graham Little, F.R.C.P., Representative of the University at the celebration of the Royal University at Breslau in August, 1911.

Mr. H. B. Wilmot, M.R.C.S., L.R.C.P., has been re-elected a Governor of the Latymer Foundation, Edmonton.

Advanced Lectures in Physiology.

The following advanced lectures in physiology are announced to be given during the third term:

1. Eight lectures on the gases of the blood, by Professor G. A. Buckmaster, M.D., and J. A. Gardner, M.A., F.I.C., in the Physiological Laboratory of the University, on Tuesday, at 5 p.m., beginning on May 9th.

2. Eight lectures on the mechanism of oxidation, by W. M. Bayliss, D.Sc., F.R.S., at University College, on Fridays, at 4.30 p.m., beginning on May 5th.

3. Eight lectures on the secretion of urine, by Professor T. G. Brodie, M.D., F.R.S., at King's College, on Wednesdays, at 4.30 p.m., beginning on May 10th.

4. Four lectures on the secretion of urine, by Dr. J. S. Haldane, F.R.S., at Guy's Hospital, on Thursdays, at 4 p.m.

5. Four lectures on the importance of organic chemistry in relation to physiology, by F. G. Hopkins, M.B., D.Sc., F.R.S., at Guy's Hospital, on Thursdays, at 4 p.m.

6. Four lectures on autolysis, by E. L. Kennaway, M.B., B.Ch., at Guy's Hospital, on Thursdays, at 4 p.m., beginning on June 8th.

Courses (1), (2), and (3) have been recognized by the Senate as courses of advanced lectures which a candidate at the B.Sc. (Honours) Examination in Physiology may name for part of his examination.

Students requiring further information regarding the lectures should address their inquiries to the heads of the laboratories at which they will be delivered. The names are as follows: Professor Waller, F.R.S. (the University), Professor Starling, F.R.S. (University College), Professor Halliburton, F.R.S. (King's College), Dr. M. S. Pembrey (Guy's Hospital).

University Studentship in Physiology.

A university studentship in physiology of the value of £50 for one year will be awarded to a student qualified to undertake research in physiology, and will be tenable in the Physiological Laboratory of the University, or of a school of the University. Applications must be received by the Principal on or before May 31st, 1911.

KING'S COLLEGE.

Post-Graduate Course of Applied Anatomy.

A post-graduate course of applied anatomy will be given twice in the year during the summer and winter terms in the Anatomy Department of King's College. The class will commence on May 8th at 4.30 p.m., and will meet on Mondays, Tuesdays, and Fridays until the middle of July. The fee for the course is £4 4s.

UNIVERSITY COLLEGE.

Dr. Thomas Lewis will deliver a course of six lectures on the graphic methods of investigating heart disease, on Fridays at 4 p.m., commencing May 5th. The lectures are free to all students and members of the profession on presentation of visiting card.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

SURGERY.—*†G. J. F. Elphick, *†J. B. Holmes, *†T. T. O'Callaghan, *†H. L. Tidy, *†G. H. Varley.

MEDICINE.—*†H. H. Budd, †J. B. Holmes, *J. E. S. Sheppard-Jones, *†H. L. Tidy.

FORENSIC MEDICINE.—R. E. Laurent, P. McGinnis, H. L. Tidy.

MIDWIFERY.—N. S. Adler, R. E. Laurent, P. McGinnis, H. L. Tidy, G. H. Varley.

* Section I. † Section II.

The diploma of the Society has been granted to Messrs. G. J. F. Elphick, J. B. Holmes, T. T. O'Callaghan, and H. L. Tidy.

The Services.

EXAMINATIONS FOR VOLUNTARY AID DETACHMENTS.

AT a recent meeting of the Worcester Division of the British Medical Association, the Chairman, Mr. J. Lionel Stretton, brought to notice a communication he had received from the secretary of the Midland Counties Union of Educational Unions. The communication was to the following effect:

Dear Sir,

Your name has been suggested as that of a gentleman who might be prepared to help the work of this Union by undertaking the work of examination in Ambulance Work and in First Aid and in Home Nursing for Voluntary Aid Detachment classes. The fees we are able to offer are small, as we have to meet the cases of small evening classes, and many of them in rural districts. For an examination of a small number of candidates the fee is 10s. 6d.; but where the number of candidates necessitates a longer stay it is 15s. 9d., and for a good-sized class it is 21s.; and we, of course, pay all necessary travelling expenses.

I hope you will be able to render us this service, and shall be glad to hear from you at your earliest convenience.

Yours truly,
(Signed) W. J. HARRIS.

Dr. L. Stretton,
Kidderminster.

Mr. Stretton's reply was as follows:

Dear Sir,

The fee for Ambulance examination is one guinea and travelling expenses.

I do not think any respectable member of the profession will accept less.

Yours truly,
(Signed) J. LIONEL STRETTON.

The Division expressed its full concurrence with the course Mr. Stretton had taken.

It is indeed extraordinary how organizations established for charitable purposes or for the advancement of the public welfare imagine that they are justified in calling upon members of the medical profession to discharge duties of a technical nature for a remuneration which is really an insult. It is easier to understand an appeal to the generosity of the profession to do such work for nothing, though such an appeal would, we think, be unjustified, because, if the work is required for the good of the State, the State should provide reasonable remuneration. It is very well that the profession should have so high a reputation for doing charitable deeds, but when it comes to the organization of the defence of the country against possible invasion it is asked to do a public duty to which a suitable fee should attach.

INDIAN MEDICAL SERVICE.

STUDY LEAVE.

IT is notified that an officer of the Indian Medical Service who cannot, on grounds of public convenience, be granted study leave in time to qualify himself while in the rank of Captain for accelerated promotion, shall have the concession of accelerated promotion open to him for a period of four years after his promotion to the rank of Major in the ordinary course. If at any time within these four years he qualifies for accelerated promotion by producing satisfactory evidence of progress in knowledge of Urdu in the terms of the notification above referred to, his promotion will be antecedent and his position in the Army List adjusted accordingly, but he will have no claim to any arrears of pay at the advanced rate.

THE Bulgarian Chamber of Deputies has passed a bill providing for the formation of a new Ministry which is to deal with sanitary affairs and with labour. In addition to the administration of the public health service this Ministry is to have under its jurisdiction school doctors, civil hospitals and scientific institutions, veterinary surgeons, pharmacists, Poor Law doctors, those appointed for special service during epidemics, and medical officers to railways.

THE third International Congress for the Care of Nurslings will be held in Berlin in September next (11th to 13th). The congress is under the patronage of the German Empress, and the Imperial Chancellor is the President of the Honorary Committee. The General Secretary is Professor Keller, Kaiserin Augusta-Victoria-Haus, Charlottenburg, Berlin. An excursion for members who wish to visit the Hygiene Exhibition at Dresden has been arranged for September 15th.

Medical News.

THE Czar has contributed the sum of £1,000 to the funds of the All-Russian League against Tuberculosis.

AN international homœopathic congress—the eighth of the quinquennial series—will be held in London this year (July 17th to 22nd).

THE Canadian Association for the Prevention of Tuberculosis will hold its eleventh annual meeting at London, Ontario, on May 18th and 19th.

DR. WILLIAM H. FRETZ (Senior Medical Officer) has been appointed an unofficial member of the Legislative Council of the Presidency of St. Christopher and Nevis.

THE Duke of Northumberland, President, will take the chair at the annual dinner of the Royal Sanitary Institute at the Langham Hotel, London, on Thursday, May 18th.

DR. M. S. PEMBREY will give a lecture at the Royal Sanitary Institute, Buckingham Palace Road, S.W., on the Physiological Principles of Physical Training, on Wednesday, May 3rd, at 5 p.m.

THE annual general meeting of the Medical Defence Union will be held at the Grand Hotel, Brighton, on Thursday, May 18th, at 4.30 p.m., when the annual report of the council for 1910 will be duly presented to members.

DR. LOUIS GABRIEL BARBEAU (Acting Director of the Medical and Health Department) and Hassan Sakir, M.B., have been appointed Nominated Members of the Council of Government of the Colony of Mauritius.

THE annual conversazione of the Medical Society of London will be held on Monday evening, May 15th. The President will receive the visitors at 8.30 p.m. and at 9 p.m. Dr. William Pasteur will deliver the oration; he has chosen for his subject Post-operative Lung Complications.

THE Ingleby Lectures before the University of Birmingham will be delivered this year on Thursdays, May 18th and 25th, at 4 p.m., by Dr. E. F. Bashford, in the Medical Lecture Theatre. The subject selected is Advances in Knowledge of Cancer; the lectures will be illustrated by lantern demonstration.

THE total number of students in the University of Vienna in the last winter semester was 9,922. Of these, 2,106, of whom 96 were women, belonged to the medical faculty. This number does not include 379 students attending special courses; of these, 8 were women.

MR. HENRY BOUTFLOWER, who recently resigned the office of Honorary Surgeon to the Royal Salford Hospital, has been elected an Honorary Consulting Surgeon to that institution. The Board of Management, in recording its sense of the valuable services rendered to the hospital by Mr. Boutflower, stated that it was as long ago as 1870 that he succeeded his father, who had been surgeon to the institution since its foundation in 1827.

AT an exhibition, to be open all day at the Holborn Town Hall on May 9th, the Nurses Missionary League will illustrate various forms of nursing work in the Far East. The proceedings include "A Chinese feast" and "A Japanese reception," and short addresses at intervals by various medical men and women and nurses who have practical experience of work in the East. Tickets can be obtained from Miss H. Y. Richardson, 52, Lower Sloane Street, London, S.W.

THE Metropolitan Public Gardens Association ended last year with a not very satisfactory balance on the right side. Its work is to guard all open spaces from threatened encroachments and to endeavour to secure and lay out suitably for the public benefit any fresh spaces which become available. To its energies Londoners owe directly or indirectly a very large proportion of all the open spaces which do so much to relieve the monotony of endless pavements and streets. It should receive more support. Its head quarters are at 83, Lancaster Gate, W.

ON the eve of his departure from Dartford, where he was medical officer of the union infirmary for some seventeen years, Dr. Richmond Allen was the recipient of a silver salver and an address from a large number of officials of the union and other friends. In making the presentation, the Chairman of the Board of Guardians said that he desired to express the general appreciation both of Dr. Allen's services and of the courtesy and kindness with which they were accompanied. Whenever Dr. Allen had not been in agreement with the guardians the latter had always recognized that he felt it his duty to differ from them in the interests of the efficiency of the institution in his charge. A corresponding presentation was made to Mrs. Allen.

THE presentation of new graduates of the University of London will take place at the university at 3 p.m. on Wednesday, May 10th. At 6 p.m. a service will be held at St. Paul's Cathedral, open to all persons connected with the University of London as recognized teachers or in other ways, to all graduates and undergraduates, and to all regular students of schools of the University. The Chancellor, the Earl of Rosebery, will be present, and seats will be reserved for graduates and undergraduates, who are requested to wear academic dress. Applications for seats, accompanied by a stamped addressed envelope, should be received by Mr. S. Hoyte, 88, Gower Street, W.C., not later than May 3rd. On three previous occasions a service has been held on Presentation Day in Westminster Abbey, but the Abbey will be closed this year for the coronation preparations. The sermon will be preached in St. Paul's Cathedral by the Rev. J. G. Simpson, Canon of St. Paul's.

A QUARTERLY court of the directors of the Society for the Relief of Orphans and Widows of Medical Men was held on April 12th, Dr. Blandford, President, in the chair. Sixteen directors were present. Two gentlemen were elected members of the society. The report and balance-sheet for the year 1910, to be submitted at the annual general meeting, were approved. The invested funds of the society now amount to £100,900. Relief is only granted to the widows and orphans of deceased members. Membership is open to any registered medical practitioner who, at the time of his election, is residing within a twenty-mile radius of Charing Cross. The annual subscription is two guineas; special terms for life membership according to the age of the candidate. Full particulars may be obtained from the Secretary at the offices of the society, 11, Chandos Street, Cavendish Square, W. The annual general meeting will take place on May 17th at 5 p.m.

IT was announced in the BRITISH MEDICAL JOURNAL of November 5th, 1910, that the International Congress of Dermatology and Syphiligraphy will hold its seventh meeting in Rome next September (25th to 29th). The President is Professor Tommaso de Amicis, of Naples, Senator of Italy; the Secretary-General, Dr. Gaetano Ciarrocchi, 5, Piazza Grazioli, Rome. The following subjects have been selected for discussion: (1) The influence of the new etiological, diagnostic, and experimental researches on the treatment of syphilis, and the possibility of immunization or of a radical or abortive treatment of the infection. (2) The results of physio-therapy in diseases of the skin. (3) Blastomycosis, sporotrichosis, and their relation to analogous processes. Members who intend to take part in the discussions or to read papers are requested to send a short typewritten abstract of their communications to the Secretary-General before the end of April. A final programme will be published in May. The fee for membership is £1. The Secretary for Great Britain and Ireland, Dr. H. G. Adamson, 9, Weymouth Street, London, W., will be glad to give any further information to members or to those desirous of becoming members.

At the meeting of the Royal Meteorological Society on April 19th, Mr. W. Marriott read a paper on variations in the English climate during the thirty years 1881–1910. In 1874 the society commenced the organization of a series of "Second Order Stations" at which observations of pressure, temperature, humidity, rainfall, and wind, are made twice a day (at 9 a.m. and 9 p.m.). In addition to these another class of stations termed "Climatological" at which observations are made once a day (at 9 a.m.) was organized in 1880. From an examination of the records for the thirty years he found that the warmest months were August 1889, July 1900, and July 1901; while the coldest months were February 1895, January 1881, and December 1890. During the last fourteen years the temperature in October was above the average except in 1905. The years with the highest mean temperature were 1898, 1893, and 1899, and the years with the lowest temperature were 1892, 1888, and 1887. The month with the highest mean pressure was February 1891, and that with the lowest pressure was March 1909. On the average April was the month with the least rainfall, and October the month with the heaviest rainfall; while June had the least number of days of rain. The wettest months during the thirty years were October 1903 and October 1891, and the driest months were February 1891 and April 1893. The years with the heaviest rainfall were 1903 and 1891, and the years with the least rainfall were 1887 and 1893. The wind diagrams showed that the prevailing winds were from south-west and west, but that in April, May, and June, north-easterly winds were more pronounced than in the other months of the year.

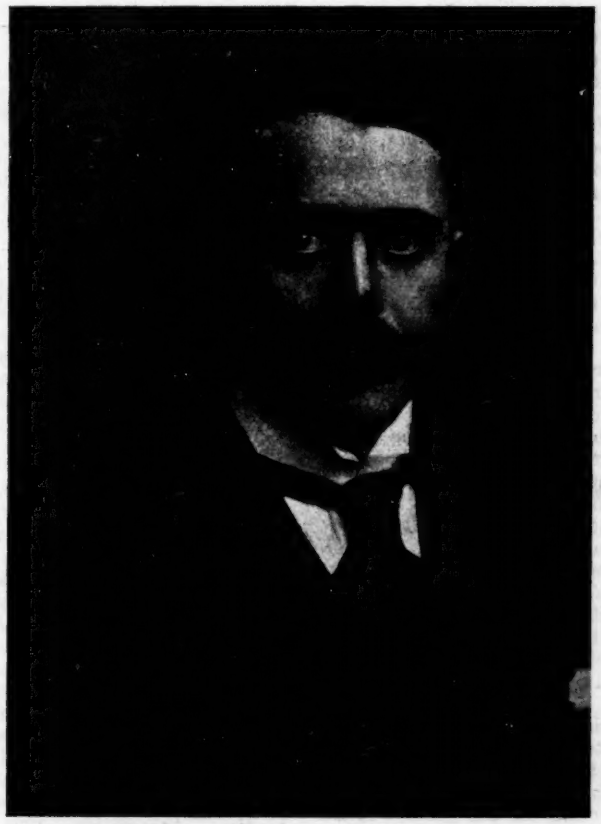
Obituary.

MAJOR LAMB, M.D.GLASG., I.M.S.

By the death of Major Lamb, a brief notice of whom appeared in the JOURNAL of April 22nd, the Indian Medical Service has lost one of its ablest and most esteemed members, and science has been robbed of one of her most ardent devotees. A correspondent who knew him well has sent us the following more detailed account:

Dr. Lamb was a man of great scientific attainments, and although but 41 years of age, had already achieved a reputation which is by no means confined to India. His contributions to science are as well known and as highly appreciated by scientific men throughout the world as by his colleagues in the service.

His early death, at a period when his judgement had matured but his imagination and enthusiasm remained unimpaired, is a serious loss to the small band of earnest scientific investigators in India, and one which will not easily be made good.



MAJOR LAMB, I.M.S.
(Photograph by T. and R. Annan and Sons, Glasgow.)

Lamb was educated at the Glasgow High School, whence he proceeded to the University of Glasgow in 1886. He had a brilliant university career, and on graduating in 1890 received the Bruton Memorial Prize as the most distinguished graduate of his year. On taking the degree of M.D a few years later, he was awarded the Bellahouston Gold Medal.

After a year spent in filling resident appointments at the Western Infirmary under Sir Hector Cameron and Sir William Gairdner, he became Demonstrator of Anatomy under Professor Cleland. This position he relinquished in 1893 when he entered the Indian Medical Service, obtaining the first place in the competitive entrance examination. At Netley he obtained most of the prizes available, and at the conclusion of the course again took the first place.

At Netley Lamb encountered Sir Almroth Wright, who was then Professor of Pathology at the Army Medical School. The direction of his interests towards Pathology was due in large measure to Professor Wright's influence. Lamb owed much to the inspiration gained from this teacher, and was always pleased to express his indebtedness and to insist with charming enthusiasm on the great stimulus Wright's teaching had been to him.

In April 1894 Lamb proceeded to India, and for the next three years was employed in military service, mostly on the North-West Frontier, where he took part in the Waziri expedition. He could hardly have conformed to all the conventional ideas of a military surgeon, but he was very popular with his brother officers, and greatly esteemed by the troops under his medical care. These consisted for the most part of men recruited from the Hill tribes—wild creatures whose morals and ideals differed no doubt from average European standards, but for whom, nevertheless, he entertained a considerable measure of respect. On the Frontier, especially under active service conditions, Lamb experienced life stripped of most of its affectations, a thing which is always educative and salutary, and especially so to one who has just spent seven years of academic existence. Although often at the time chafing to be again at scientific work, he was wont to look back upon his three years spent as a military surgeon on the Frontier without regret and with evident enjoyment.

In 1897 he returned to Europe on six months' leave, which he spent in study at the Pasteur Institute in Paris. On the termination of his leave, he was delighted to find that he had been selected by the Government of India to proceed to the Royal Army Medical School at Netley for further training in pathology and bacteriology, and to assist his former teacher, Professor Wright, in the teaching work of the Department of Pathology. This happy arrangement lasted for eighteen months, and Lamb always regarded it as the most joyful time of his life. The admiration he had conceived for Wright when a student at the Army Medical School rapidly developed into the warmest affection with the closer intimacy which he now enjoyed with his chief. The teaching duties were neither arduous nor continuous, and the major portion of his time and energy was available for research. The conditions in the laboratory were most congenial. The other assistants were Major Semple (now Sir David Semple) and Captain Birt (now Colonel Birt), with both of whom he collaborated in researches and formed close friendships, which lasted throughout life. Whilst at Netley, Lamb published three valuable papers dealing with various aspects of immunity, which showed that the brilliant student had become a capable investigator.

Returning to India in 1899, he became Assistant to Professor Haffkine, at that time Director of the Bombay Bacteriological Laboratory at Parel. In addition to numerous duties connected with his post, Lamb now commenced a series of investigations into the action of Indian snake venoms, for which he is justly renowned. These researches, which at first dealt with the nature and physiological action of the poisons produced by the different serpents of India, were later concerned with the production, properties, and standardization of antivenomous serums, and brought to light many facts of fundamental importance to the doctrine of immunity. The results appeared in twenty papers published between 1899 and 1907, partly in the *Scientific Memoirs* of the Government of India and partly in the *Lancet*. These researches, which involved the analysis of the action of the different poisons upon the various mechanisms of the animal body, necessitated the employment of very various physiological and pathological techniques. They were carried out in laboratories in India which were by no means sumptuously equipped for such inquiries. Nevertheless, they are models of insight and accuracy, and form a monument which will endure in the annals of scientific achievement. At the commencement of these inquiries Lamb was himself bitten by a cobra whilst manipulating the reptile in the laboratory, and narrowly escaped with his life.

It was about this time that the writer first met Dr. Lamb. He goes on:

Lamb's earlier researches on snake poisons had led to a correspondence between us, and in 1901 it was arranged that we should meet in Bombay. I recall w

vivid distinctness our first meeting. It was in one of the quaint laboratories transformed out of old Government House, Parel, which had previously been a Portuguese Jesuit seminary. It smelt strongly of teak, of which the fittings were constructed. I was enchanted by the simple frankness and geniality which contributed so greatly to the charm of his personality, and within a few minutes we seemed to be old friends. It was, however, his extraordinary keenness which impressed me most. Making every allowance for the intensification of the impression by the background—the climate of Bombay does not conduce to the manifestation of acute mental alertness and enthusiasm—Lamb struck me as the keenest man I had ever met. I remember we spent most of the night in a half naked condition discussing snake poisons, and that it was one of the most entertaining conversations I have ever enjoyed.

Dr. Lamb left Bombay in 1903, and spent the next few years at Kasauli, where he was assistant to Colonel Semple at the Pasteur Institute of India. Shortly before leaving Parel he married Patricia Liston, the sister of his old friend and colleague, Major Glen Liston.

The effect of strenuous work in Bombay had been very trying, and he left that picturesque city regretting only its glorious harbour, for he was an enthusiastic sailor-man, and his only recreation was sailing his *Tom-Tit*. Kasauli, being situated on the summit of one of the foot-hills of the Himalayas, enjoys a delightful climate, excellent for children, and, in addition, laboratory work may be indulged in with as little injury to health as in this country. The isolation, too, was congenial both to Mrs. Lamb and himself, and he looked forward to much quiet happiness and increasing opportunities for scientific work. Although at Kasauli the work of the Pasteur Institute, where about 1,000 patients were annually treated for rabies, made greater demands upon his time than had the duties of the post at Parel, this was more than compensated for by the improved climatic conditions. The snake-poison work was continued and experiments on the standardization of antityphoid vaccines and other researches incidental to work of the institute were also carried out.

Before leaving Bombay Lamb had discovered the existence of Mediterranean or Malta fever in India, and was inclined to believe that many of the obscure cases of fever amongst native troops, hitherto indiscriminately ascribed to malaria, were really cases of this disease. This view was warmly combated in many quarters. At Kasauli, however, he had the opportunity of studying some suspicious outbreaks amongst troops in the Punjab, and succeeded not only in justifying his contention, but showed that the disease was brought about by the consumption of infected goat's milk, as had recently been ascertained to be the case in Malta by the Mediterranean Fever Commission.

In 1905, Colonel Semple having been transferred to the new Central Institute for Research recently built at Kasauli, Dr. Lamb succeeded to the position of Director of the Pasteur Institute. At the same time he gained his majority by accelerated promotion on the ground of his distinguished services.

He had not long held this responsible position, however, when the Advisory Committee for the Investigation of Plague in India, which had been constituted to promote investigation into the means of spread of plague in India, asked the Government of India to place the services of Major Lamb at its disposal. The Government of India could not at first see its way to comply with this request, as difficulty was experienced in finding a suitable substitute to take up the responsible work of antirabic inoculation at the Pasteur Institute. The committee was so convinced, however, that Lamb was essentially the man to be the senior member of the Commission, that it did not accept the reply of the Indian authorities as final, and after much importunity on the part of the committee its request was acceded to.

Its confident expectations were more than justified. Under the leadership of Major Lamb the Commission has carried out an extensive series of researches, both epidemiological and experimental, the conception and thoroughness of execution of which has commanded the respect and admiration of epidemiologists and bacteriologists throughout the world. Its researches have shown in the clearest manner the more important conditions governing the spread of human plague in India and the mechanism by which the disease is transferred from rat to rat and from rat to man. To Major Lamb a very large part of the credit for the success obtained is justly due.

The subject of plague has not of late years attracted much interest in this country. We have become accustomed to the news of the holocaust annually occasioned by the disease in India. It is pleasing therefore to remember that the Council of the British Medical Association, recognizing the importance of the results of the work of the Commission and Major Lamb's share therein, last summer awarded him the Stewart Prize for the most important contribution made within the last few years to our knowledge of the spread of a disease.

In this appreciation of Major Lamb the scientific side of his career has been more particularly represented. His death will also be a serious grief to a large number of friends and acquaintances, who came to love and admire him as a man; and among those who will mourn his loss most acutely will be his old bearer, who had faithfully served him since he came to India, and whom I last saw tending with the same pride and care the little sahibs of the next generation.

J. GORDON ASHER FORSYTH, M.B., C.M.,

INVERNESS.

IT is with sincere regret that we have to announce the death on April 22nd of Dr. Asher Forsyth from cardiac failure, following an attack of acute pneumonia; he had passed the critical period of the disease and was progressing very satisfactorily when a sudden attack of cardiac weakness set in from which he never rallied.

A son of the manse, Dr. Asher Forsyth was born at Abernethy, in the shadow of the Cairngorms, forty-six years ago, his father, the late Rev. Wm. Forsyth, D.D., being the minister of that parish for many years. Educated at the parish school and subsequently at Aberdeen, he attended the arts classes in the university for two years and then proceeded to study medicine at Marischal College, graduating M.B., C.M. in 1888. After leaving the university he was for a short time surgeon on board a steamer trading between India and China; returning to this country, he held an assistantship in England for a year or two, ultimately settling down in Inverness a little over twenty years ago.

During his sojourn in Inverness Dr. Forsyth acquired a large practice. He was a good type of the family physician, and was most conscientious in the performance of his professional duties. He was one of the medical attendants to the Northern Infirmary, and both in this capacity and as one of the directors of that institution he devoted much time and trouble to its welfare. Of a genial, kindly, and likeable disposition, Dr. Forsyth endeared himself to his many friends and patients in Inverness, and his death at a comparatively early age has caused deep feelings of regret not only in that town, but in the neighbourhood where he was well and favourably known. He was an active member of the British Medical Association, and as President-elect of the Northern Counties of Scotland Branch he was looking forward with much pleasure to presiding at the annual meeting, which out of courtesy to him was to be held at Grantown-on-Spey, which is within a few miles of his birthplace. He was a keen Freemason and a strong Conservative in politics, but was by no means an aggressive one.

Dr. Forsyth leaves a widow and a son and daughter, to whom, as well as to his aged mother, the sympathy of his professional and other friends not only in Inverness but throughout the country will be extended.

HENRY EDWIN SCOTT, L.R.C.P. AND S.E.,

KIKUYU, BRITISH EAST AFRICA.

NEWS has been received in Edinburgh of the death, at Kikuyu, British East Africa, of the Rev. H. E. Scott, L.R.C.P. and S.E., medical missionary there.

Dr. Scott, who was in his forty-eighth year, was educated at the Royal High School and the University of Edinburgh. He was a distinguished football player and a good all-round athlete. When he was last in Edinburgh his friends noticed that his fine physique

had suffered severely from his sojourn in Africa. Dr. Scott had been a missionary of the Church of Scotland since 1890. He was first stationed at Nyasaland, and in December, 1907, he was transferred to Kikuyu, British East Africa, to act as the head of the Church of Scotland Mission there. He took a prominent place in the public life of the community. He was a member of the Government Board of Education, and in other directions he was applied to by the Government for advice in connexion with native affairs.

DR. LOURENÇO PEREIRA MARQUES, who died recently at Macao, in China, was born at that place in the famous "Garden of Camoens" in 1852. He received his early education from the Jesuits, studied medicine at Lisbon, and afterwards at Dublin, where he obtained the diplomas of the Colleges of Physicians and Surgeons in 1877. In 1881 he was admitted a Member of the Royal College of Physicians in Ireland. He returned to China in 1878 and practised at Hong Kong till 1896. He was appointed Medical Superintendent of the civil hospital there in 1880, and held several other appointments in the hospitals of the colony. He received the thanks of the Government for his services during the cholera epidemic in 1883. He was a Commander of the Order of Christ and a Knight of that of the Torre e Espada, distinctions conferred upon him for his services during epidemics of plague and cholera. In 1895 he retired from the public service and settled in his native place. Dr. Pereira Marques had a high ideal of his profession, and throughout his life showed the most self-sacrificing devotion to duty.

Public Health
AND
POOR LAW MEDICAL SERVICES.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Bromsgrove Urban District.—The birth-rate was 24.8 of the population of 8,740, the death-rate from all causes 13.2 per 1,000, and the infantile mortality-rate equal to 92 per 1,000 births. Dr. Cameron Kidd, the medical officer of health, states that he proposes to make the experiment of discharging scarlet fever patients from the isolation hospital at the end of five or six weeks without waiting for the completion of desquamation, provided there are no signs of catarrhal complications or discharges from the ear or nose. He refers to the increasing number of duties which are placed upon medical officers of health, without any additional remuneration being made them. His salary of £30 per annum has been unaltered since he was first appointed twenty-three years ago. He expresses the opinion that a medical officer of health who is in private practice should be paid a salary which would compensate him for the inevitable losses which must fall upon him in his practice if he carries out his public duties honestly and conscientiously.

Chesterfield Borough.—The population of the borough of Chesterfield as extended on November 9th, 1910, was estimated at 39,592, but Dr. Herbert Peck's report deals with the old borough with an estimated population of 31,845 persons. The birth-rate was 27.4 per 1,000, the death-rate from all causes 13.2 per 1,000, and the infantile mortality-rate was equal to 158 per 1,000 births. One-third of the total number of deaths was among children under one year of age. High as this rate of infantile mortality is when compared with that which prevailed in the whole country (106), it is 15 per 1,000 below the average Chesterfield rate of the preceding ten years. Dr. Peck considers that the efforts of Dr. Bethia Alexander, who has acted as health visitor for three years, have done a great deal towards lowering the rate. The number of deaths from convulsions, which are principally due to improper feeding, has been reduced to one-half that which formerly prevailed. The death-rate from diarrhœa, which was double that of the country generally, may be attributed to the existence of privy-middens in the town. The corporation would be well advised to act upon the advice of their medical officer of health and hasten on the conversion of these structures to water-closets.

Stretford Urban District.—Based upon an estimated population of 44,680 persons, the birth-rate in 1910 was 18.2 per 1,000, the death-rate from all causes 10.6 per 1,000, and the infantile mortality-rate was equal to 100 per 1,000 births. Measles was compulsorily notified in Stretford from 1894 until 1902, since which date the number of deaths from the disease has averaged 6 annually. In 1910 there were no deaths from measles. Whenever a case comes to the knowledge of the medical officer of health a pamphlet is left at the house concerned pointing out the precautions to be taken to prevent complications and the spread of the disease. Four cases of ophthalmia neonatorum were notified during the year; all the patients recovered without injury to their eyes. The deaths from phthisis numbered 41, but only 11 notifications were received under the Public Health (Tuberculosis) Regulations, 1908. There have now been erected by the corporation sixty-six houses as part of a scheme providing for the erection of 112 houses sanctioned by the Local Government Board in 1904. The report indicates that a great deal of good work is being quietly carried on by Dr. W. J. Heslop, the medical officer of health.

Renfrew Burgh.—The estimated population at the middle of 1910 was 12,888. The birth-rate was 27.9 per 1,000, the death-rate from all causes 13.6 per 1,000, and the infantile mortality-rate was equal to 119 per 1,000 births. Among the matters which Dr. W. G. Stevens considers still require to be attended to are the unseemly handling of bread; the unsatisfactory milk supply and distribution; the existence of many old-fashioned ash-pits; the existence of many closed-in beds; dirty houses; the defective state of many back courts; dirty and verminous children; the sale and use of baby comforters; and expectorating in public places. Many of these, he maintains, would be removed if the dormant sanitary conscience of the inhabitants could be awakened.

Paisley Burgh.—The estimated population of Paisley at the middle of 1910 was 93,584. The birth-rate was 23.9 per 1,000, the death-rate from all causes 13.7 per 1,000, and the infantile mortality-rate 113 per 1,000 births. Dr. Clark Trotter points out that among town dwellers in Scotland the good nourishing food and the oatmeal of their forefathers is seldom used, and he expresses the opinion that the badly-nourished children now seen are the result of tea and white bread, a diet which has been extensively used for at least two generations. The Paisley Town Council has decided to have one of the smaller wards of the infectious diseases hospital altered for the reception of cases of phthisis. The home visitation of consumptive patients is producing good results in Paisley. During 1910 among those visited 17 had removed to better houses, 17 others were provided with a room to themselves, and 12 others who previously slept with other members of the family with a bed of their own.

Croydon Rural District.—The population was estimated at 63,600. The birth-rate was 23.0 per 1,000, and the very low death-rate of 8.9 per 1,000 was recorded. The infantile mortality-rate was 67 per 1,000 births. Dr. Fegen refers to the great nuisance which is caused in some parishes by the importation of offensive London refuse. Steps have been taken to minimize the nuisance as much as possible, but difficulties arise because the railway companies, being "common carriers," are bound to carry this material. A conference has been called with adjoining districts to discuss the advisability of taking joint action in the matter. In the section on milk supplies Dr. Fegen points out that if milk is obtained solely from healthy cows, and handled with proper observation with regard to the admission of dirt or other filth and if the milk is properly cooled immediately after milking, there is no need for pasteurization, sterilization, or the addition of any of the so-called preservatives which do not in themselves tend to preserve the milk, but merely mask the putrefactive changes which may have already commenced in the milk.

ACTIONS AGAINST ISOLATION HOSPITAL AUTHORITIES.

MEDICAL SUPERINTENDENT writes: I have charge of an infectious disease hospital nominally for 81 beds, but actually possessing 163 beds. Patients consist of scarlatina, diphtheria, and enteric cases. In the board's year from April 1st, 1910, to March 31st, 1911, 1,248 patients have passed through the hospital; of these 944 were scarlatina cases, and 98 beds were used for the scarlatina patients. A small-pox hospital (63 beds), situated three miles distant from the infection hospital, was used to take scarlatina cases at the end of three and a half weeks; it was used as a convalescent hospital; 644 patients were sent there; they lived quite an outdoor life. A child which had a simple attack of scarlatina was in hospital eight weeks, being kept in two weeks longer than usual owing to slight rhinitis; when dismissed the nose had been dry for four days and the child appeared free from infection; there was a slight desquamation on the heels. The day the child left the hospital was bitterly cold, and a taxicab was brought for it, in which, on the way home (six miles), were the father, mother, and aunt. The windows of the taxicab were kept closed, but on arrival home the child again had a running nose. Three days after arriving home the father developed scarlatina and was removed to hospital, and is now up and going on well. He has a shop in which business is at a standstill during his absence, and the wife is now taking legal proceedings for compensation, stating that the child was "not cured" when discharged from hospital. Our correspondent asks for information as to what has happened in former cases of this nature.

*** Quite recently the Torquay Corporation had to pay damages in a similar case. A somewhat similar case occurred at Hereford in 1903, and is recorded in the report of the medical officer of health for that year; damages were awarded in the county court, the judge laying great emphasis on the absence of a discharging block at the hospital, a defect which has since been remedied. Cases of the kind which have not, we believe, been published have, we understand, occurred in Bradford and in Birmingham.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

RUSTICUS wishes to know whether there is any chance of combining the practice of medicine and fruit growing in British Columbia.

A MEDICAL MAN, not in practice, desires to be recommended a locality, not a large town, which climate and soil render suitable as a residence for one subject to rheumatism.

MIDLANDS, who has found out for himself that a washable collar purchased at a rubber shop for 7½d., and made no doubt of celluloid, burst into flame if kept for less than a minute at a distance of 3 inches from a gas stove, asks whether there is any safe form of collar which does not need to be sent to the laundry; such a collar is required for a boys' orphanage.

ANSWERS.

PERINEAL HERNIA.

DR. H. J. THORP (Ipswich) writes, in reply to "J. D.": If the perineal hernia is reducible, it may be supported by a special truss adapted to the requirements of the case or by a pessary; if irreducible, an operation for the removal of the sac is advisable in some cases.

GENERAL PSORIASIS.

MR. L. B. DHARGALKER, L.M.S. (Bombay) writes to suggest that "Senex," who inquired in the JOURNAL of February 11th as to the treatment of an obstinate case of psoriasis, should try the application of the fresh expressed juice of the black nightshade (*Solanum nigrum*) to the affected parts. The drug was used with success in two obstinate cases of general psoriasis of some twelve years' duration, when other drugs had failed. The applications were continued for a month each day after a bath.

BOOKS ON GENERAL PSYCHOLOGY.

G. M. C. cannot do better than begin with Professor G. F. Stout's little book, *The Groundwork of Psychology* (London: W. B. Clive, 1903, 4s. 6d.). Professor Wundt's *Outlines of Psychology* is now obtainable in a good English edition (London: Williams and Norgate, 1902, 8s.). If "G. M. C." wishes to proceed to experimental psychology, he should order Professor Myers's *Textbook of Experimental Psychology* (London: E. Arnold, 1909, 8s. 6d.).

STETHOSCOPES.

AURAL.—Owing to minute but material differences in the sound perception of persons of apparently equally acute or equally diminished hearing power, no one but the individual primarily concerned could possibly say which was the best stethoscope for use by a medical man handicapped by middle-ear catarrh. Some such individuals hear excellently with wooden stethoscopes, and very badly, if at all, with any form of flexible tube, even if supplemented by a phonendoscope, and others vice versa. The only reasonable course is to try on the same chest as many stethoscopes specially devised for the partially deaf as can be found. Messrs. Arnold of West Smithfield used at one time to devote a good deal of attention to this subject, and probably still do so. A special binaural stethoscope devised by Dr. Blackwell and made by Messrs. Allen and Hanbury, and recently mentioned in our columns, might also be tried.

LETTERS, NOTES, ETC.

FOURTH ATTACK OF CHICKEN-POX.

DR. SIDNEY MATTHEWS (Crawley, Sussex) writes: I have just attended a man, aged 22, with a fourth attack of chicken-pox. In the light of the remark in the textbooks that second attacks are almost unknown, it seems to me to be sufficiently interesting to record.

MEAT FOR BABES.

A CORRESPONDENT who signs himself "Baby's Food" writes that in his neighbourhood there is a general opinion that babies of 1 year old, or even less, require mutton or beef-tea as a regular article of diet. He adds that, while recognizing the value of raw meat juice in various conditions, he cannot believe that a healthy baby requires beef-tea, and believes that the idea can only have originated in the recommendation of advertisers who have meat extracts to sell. We have heard of many curious superstitions about the food of babies, but this one is new to us.

TUBERCULIN IN TUBERCULOSIS.

DR. J. STAVELEY DICK (Manchester) writes: Perhaps you will permit me to correct one rather important error in the report of the proceedings of the Manchester Clinical Society published in the BRITISH MEDICAL JOURNAL, April 22nd, p. 938. It is there stated that in the two pulmonary cases shown "the inoculations (tuberculin) had definitely controlled the temperature." That is not so. On the contrary, tuberculin treatment was not begun in either case until the temperature had been "controlled" by some weeks of rest in bed. Both patients certainly appeared to have benefited by the inoculations. I suggested, however, that "Nature and rest do so much in the majority of pulmonary cases that an accurate estimate of the value of specific treatment is very difficult; but in these two cases, at all events, it was quite clear that tuberculin inoculations had done no harm."

TUBERCULIN DISPENSARY AT STREET.

DR. HILDA CLARK writes from Levanto to correct a statement in a paragraph published in the JOURNAL of March 18th, p. 663. The paragraph referred to the Tuberculin Dispensary at Street, and, as was stated, was founded upon a report in the *Central Somerset Gazette*. Dr. Clark writes: The note says that patients at this dispensary are given "Fresh-air treatment" as well as tuberculin, and that funds have been raised to enable this part of the scheme to be extended. This suggests that the value and applicability of massive progressive doses of tuberculin has been found limited, and your readers may imagine that the limits have been proved narrower than is the case. The main expense for which funds were asked is that of the tuberculin, the other chief expenses of the scheme, medical and nursing attendance, and the use of a room, having been already provided for.

The question of subsidiary treatment applies to a few cases only. All are advised to keep their windows open, and to obtain suitable food and such rest as is necessary. The majority live under good conditions of housing and employment, and a large number remain at work throughout treatment.

The only patients who have been given what is known as fresh air treatment are nine who have occupied the two maintained beds at the County Sanatorium (Winsley) which are at the disposal of the dispensary. Two of these nine, as also two others, have been lent shelters in which they sleep in their yards. A few necessitous cases have been either referred to charitable agencies or helped from the dispensary funds with milk, blankets, etc.

It is obvious that a careful analysis of the cases must be made to show what part subsidiary treatment may have played in the success of the scheme, but it is worthy of attention that of the cases showing the most marked improvement some are those who have had nothing besides tuberculin. A striking illustration is the case of a man who had been obliged to give up work on account of extreme emaciation and weakness, and whose home conditions were bad. The disease, though in an early stage, appeared rapid, and as he lived beyond the area where we could provide supervision or help it was decided to send him to the sanatorium. While waiting, tuberculin was begun, and was given at his home as he could not walk any distance. In spite of severe reactions he improved so steadily that it was soon seen to be unnecessary to send him away. He returned to work in three months, having gained 16 lb. in weight, and continues perfectly well and strong after three months' factory work, to which he has two miles to walk. The physical signs in the lung, which had been diagnosed by his own doctor, have cleared up. He has not quite finished his course of tuberculin, of which the total cost will probably be about £1.

ABNORMALLY LARGE FIRST CHILD.

DR. C. LEGG (Tooting) writes: It will be of interest to put it on record that I delivered a primipara on Good Friday of a male child subsequently found to weigh 13 lb. in its clothes, or probably 12½ lb. without. Putting on the forceps before the head had begun to engage the perineum, as far as I can judge it took me from ten to fifteen minutes to get the head out, pulling with all my strength, then about five minutes more before I could get the body out, pulling an arm out first being impossible, and then another ten minutes to coax the child by artificial respiration, etc., back to life, the cord having been so long compressed. Both mother and child are doing favourably. By contrast I may add that a patient had her thirteenth child three days later; all were living. The last child was also a male, that only weighed 10 lb. but still exceptional. This was born before my arrival, but to attend two successive confinements with an average of 11¼ lb. babies must be a record.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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Eight lines and under	0	4	0
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A whole column	2	13	4
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NOTE.—It is against the rules of the Post Office to receive *poste-Restante* letters addressed either in initials or numbers.